

NEXT ANNUAL SESSIONS
California Medical Association, Del Monte, April 24-27, 1933
American Medical Association, Milwaukee, Wisconsin, June 12-16, 1933

CALIFORNIA AND WESTERN MEDICINE

Owned and Published Monthly by the California Medical Association

FOUR FIFTY SUTTER, ROOM 2004, SAN FRANCISCO

ACCREDITED REPRESENTATIVE OF THE CALIFORNIA AND NEVADA MEDICAL ASSOCIATIONS

VOLUME XXXVII
NUMBER 4

OCTOBER • 1932

50 CENTS A COPY
\$5.00 A YEAR

CONTENTS AND SUBJECT INDEX

SPECIAL ARTICLES:

- Renal Tuberculosis. By Robert Day,
Los Angeles 217
Discussion by Edward L. Keyes, New York
City; Arthur L. Chute, Boston; Alexander
Randall, Philadelphia.

- Bacteriophage Method of Treatment of
Infected Wounds. By Fred H. Albee,
New York, N. Y. 221

- Cancer of the Rectum. By Dudley
Smith, San Francisco 223
Discussion by Stanley H. Mentzer, San Fran-
cisco; John W. Cline, San Francisco; Clarence
G. Toland, Los Angeles.

- Cranio cerebral Injuries. By Delbert H.
Werden, Los Angeles 226
Discussion by Howard W. Fleming, San Fran-
cisco; Cyril B. Courville, Los Angeles.

- Sigmoid Sinus Thrombosis. By Robert
Levy and Herman I. Laff, Denver,
Colorado 233

- Weight-Reducing Diets. By Thomas H.
McGavack, San Francisco 238
Discussion by Roland Cummings, Los Angeles;
W. D. Sansum, Santa Barbara; H. Lissner and
H. Clare Shephardson, San Francisco.

- An Aid in Collections. By John Hunt
Shephard, San Jose 242

THE LURE OF MEDICAL HISTORY:

- Essays on the History of Embryology:
Part XI. By A. W. Meyer, Stanford
University 243
Some Medical Experiences in Persia.
Letter II. By the late Joseph W.
Cook 246

CLINICAL NOTES AND CASE REPORTS:

- Chorion Epithelioma in Patient Seventy
Years of Age. By William R. Dorr
and Oran I. Cutler, Loma Linda 247
Simplified Encephalography Technique.
By Jules H. Masserman, San Fran-
cisco 249
A Common Error in Surgical Judg-
ment. By Harold E. Crowe, Los
Angeles 250

- Coccidioidal Granuloma — Primary in
the Nasopharynx. By J. H. Childrey
and P. A. Gray, Santa Barbara 250
Hydrosalpinx—With Torsion of Pedicle.
By E. Vincent Askey, Los Angeles 252

BEDSIDE MEDICINE:

- Eczema 255
Discussion by Stuart C. Way, San Francisco;
H. J. Templeton, Oakland; Samuel Ayres, Jr.,
Los Angeles.

EDITORIALS:

- Splendid Work in Recent State Elec-
tions 260
Does Life Span Increase Mean Race
Standard Decrease? 261
Comment on This and That 261

EDITORIAL COMMENT:

- Lipoids, Proteins, and Emetin Intra-
venously for Peptic Ulcer. By C. D.
Leake, San Francisco 263
Mussels and Clams: A Seasonal Quar-
antine—Bicarbonate of Soda as a
Factor in the Prevention of Mussel
Poisoning. By H. Muller, San Fran-
cisco 263

- C. M. A. DEPARTMENT OF PUBLIC
RELATIONS 265

- CANCER COMMISSION OF THE
C. M. A. 267

STATE MEDICAL ASSOCIATIONS:

- California Medical Association 268
Minutes of Council Meeting of May 28, 1932 271
The Woman's Auxiliary to the California
Medical Association 277
Nevada State Medical Association 278

MISCELLANY:

- News 280
Medico-Legal 282
Sterilization 283
Twenty-Five Years Ago 284
California State Department of Public Health 284
Board of Medical Examiners of the State of
California 287
California Medical Association Directories
..... Adv. pages 2, 4, 6
Book Reviews Adv. page 11
Truth About Medicines Adv. page 15

ADVERTISEMENTS—INDEX:

- Adv. page 8

GREENS' EYE HOSPITAL

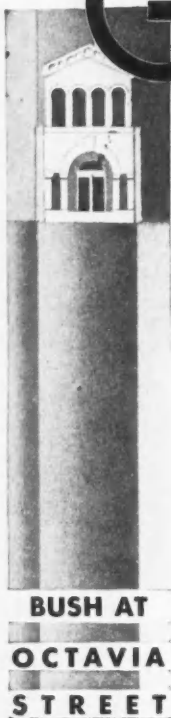
... for Consultation, Diagnosis, and Treatment of the Eye

THE HOSPITAL

As an aid in the study and diagnosis of eye conditions, Greens' Eye Hospital maintains a fully equipped

Ear, Nose, and Throat Department

This department is conducted on the same basis as the eye clinic and is open to all patients for the treatment of Ear, Nose, and Throat.



San Francisco

Telephone
WE st 4300

EMERGENCY EYE SERVICE

A twenty-four hour emergency eye service including Sundays and holidays is now available with an Ophthalmologist on duty.

Staff

OPHTHALMOLOGY

Aaron S. Green, M. D.
Louis D. Green, M. D.
Martin I. Green, M. D.
Einar V. Blak, M. D.
Geo. S. Lachman, M. D.
Vincent V. Suglian, M. D.

OTOLARYNGOLOGY

Lafayette P. Monson, M. D.

Address Communications to Superintendent



CALIFORNIA AND WESTERN MEDICINE

Owned and Published Monthly by the California Medical Association

FOUR FIFTY SUTTER, ROOM 2004, SAN FRANCISCO

ACCREDITED REPRESENTATIVE OF THE CALIFORNIA AND NEVADA MEDICAL ASSOCIATIONS

VOLUME XXXVII

OCTOBER, 1932

No. 4

RENAL TUBERCULOSIS*

WHY CLINICALLY ESTABLISHED RENAL
TUBERCULOSIS NEVER COMPLETELY
HEALS

By ROBERT DAY, M. D.
Los Angeles

DISCUSSION by Edward L. Keyes, M. D., New York City;
Arthur L. Chute, M. D., Boston; Alexander Randall,
M. D., Philadelphia.

THIS paper is intended to present an hypothesis based on accepted facts. The word "never," appearing in the title, is not intended to be taken literally but to signify extreme rarity.

SOME OF THE FACTS INVOLVED

Many physicians still resist the significance of the well-known clinical fact that a tuberculous kidney, definitely discharging tubercle bacilli, represents a progressively destructive process, and that there are few, if any, authentic records of complete healing in such a case. They seem to reason that because apparently complete healing does occur not infrequently in other organs, renal tuberculosis should not constitute an exception. If we can make them understand and appreciate the underlying reason for this difference, perhaps there will be less temporizing in cases of unilateral renal tuberculosis at a time when nephrectomy would probably result in a cure.

In deducing the hypothesis which is submitted in this paper, other questions unavoidably creep in, particularly concerning the origin and early developmental phenomena of upper urinary tract tuberculosis. Again, there arises the following pertinent query: Being of hematogenous origin, why is the disease bilateral in only 35 per cent of cases? Are bacilli in sufficient numbers carried by chance to only one kidney? Or do the organisms reach both kidneys, but gain a foothold in one only?

WHEN RENAL TUBERCULOSIS IS CLINICALLY ESTABLISHED

When pus and tubercle bacilli of renal origin are found in the urine, renal tuberculosis may be said to be "clinically established."

FACTORS WHICH DELAY HEALING BY CICATRIZATION

In several organs or tissues of the body other than the kidney, recovery or complete healing by cicatrization is a frequent occurrence. Why the difference in the case of the kidney? The answer seems obvious, one reason perhaps why writers have neglected to comment on this phase of the subject.

Renal tuberculosis is always secondary to a tuberculous focus elsewhere in the body, and the infecting organisms almost invariably reach the kidney by way of the renal artery. The lesion originates in the parenchyma. The first gross evidence is usually observed in a pyramid near its base. So far as may be inferred from animal experimentation, microscopic tubercles in the cortex may antedate this gross lesion in a pyramid by a considerable period of time. Until there is an ulcerative lesion, that is to say until the tuberculous process has extended to a calyx or to the collecting tubules, tubercle bacilli are not present in the urine from that kidney, nor does the urine contain pus cells at this stage unless the pus cells arise from a preëxisting or concomitant nontuberculous infection. Finding of acid-fast bacilli without pus cells is not evidence of urinary tuberculosis. In the prepyuric stage there are rarely any pronounced subjective symptoms or objective findings referable to the urinary tract. There may be a slight albuminuria or an afternoon rise of temperature, seldom over 99.2 degrees, unless due to a tuberculous lesion elsewhere or other concomitant cause—rarely anything pronounced until pus cells appear in the urine. Even a slight soreness over the kidney is uncommon in the prepyuric stage. Tenderness and pain over or in a tuberculous kidney means that the tuberculous process is not recent. Indeed, renal tuberculosis has usually existed from one to three years before it is definitely diagnosed. Excluding other etiological factors, frank hematuria of renal origin means that the disease has already invaded or, by reason of a ruptured vessel, has suddenly broken into the renal pelvis.

When a tuberculous process once reaches a calyx, a new clinical picture, as well as characteristic pathologic changes, soon begin, due to a descending infection involving the ureter and bladder. Tubercle bacilli are now being excreted,

* Read before the Section on Urology of the California Medical Association at the sixty-first annual session, Pasadena, May 2-5, 1932.

whereas in the prepyuric stage these bacilli were not coming down. The new clinical manifestations, essentially urinary, are frequency and dysuria of greater or less degree, and pyuria, and these are the symptoms for which the patient usually first consults his physician. The condition is all too frequently diagnosed at this time as just "cystitis," without any adequate attempt to identify the infecting organism or determine the primary focus in the urinary tract.

The ureter almost inevitably becomes the site of characteristic pathologic changes, viz., tubercles, infiltration, ulceration, thickening, fibrosis, and rigidity, which lead to constriction of its lumen at one or more sites. Besides the stenosis or stricture, the peristaltic function is interfered with. In some degree, probably, deficient elasticity must be present in even the mildest form of ureteral tuberculosis. As a result of a constricted ureter and defective peristalsis, a marked degree of back-pressure is produced in the kidney. It is scarcely rational to expect the recovery of a kidney handicapped by such hindrance to drainage of its never-ceasing secretion. Ureteral dilatation is of little, if any, lasting therapeutic value, in contradistinction to ureteral stricture produced by a nontuberculous process.

The point is often made that with rest, fixation, heliotherapy, and other measures, tuberculosis heals through the process of sclerosis, calcification, etc. In this respect renal tuberculosis differs from that in practically every other organ where tuberculosis is common, because there can be no rest for either kidney or ureter. This, plus ureteral stenosis, seems to be the answer to the tuberculous kidney's unfailing and ultimate destruction, not inconsistent with the fact that under accepted therapy healing does take place in other organs.

By careful section of tuberculous kidneys there is abundant evidence of healing, healed areas being found side by side with tubercles and all the other pathologic changes incident to tuberculosis. But in spite of these localized attempts at healing, new areas become involved and the tuberculous process in the kidney is always progressive, once the tubercle bacilli reach a calyx. On the other hand, there is some supporting evidence (Chute and others) and much reason to believe that small tuberculous lesions in the renal cortex do sometimes heal completely; but never when the lesion has reached a pyramid or calyx, or collecting tubules. Even the observations of Wildbolz, Medlar, and Thomas and Kinsella, each with his somewhat unorthodox individual theory on certain aspects of the disease, dovetail with this hypothesis when carefully analyzed. Animal experimentation is apt sometimes to lead to erroneous conclusions for the reason that in the case of man, in addition to other possible factors, evolution and civilization have conspired to add another unfavorable influence, namely, the upright position, often producing a sagging kidney and ureteral kink. Sagging and the resultant interference with drainage, predispose to pyogenic infection in general, and to renal tuberculosis in particular,

if the blood stream should happen to contain tubercle bacilli. As has been particularly emphasized by Frand Kidd, probably most of us intermittently carry a few organisms in our blood stream, and a kidney handicapped by slight hindrance to drainage and an increase in intrapelvic pressure is apt, by selectivity, to become infected, while its fellow on the opposite side escapes or recovers rapidly. A striking example is unilateral typhoid pyelonephritis. When the blood stream is swarming with *B. typhosus*, why should one kidney escape? In one instance of unilateral typhoid pyelonephritis, the writer was enabled to indicate by means of ureteropyelography the plausible explanation and probable reason why one kidney became infected, and the other escaped: a handicap to drainage on the affected side by reason of a moderate obstruction in its ureter, and hence its especial vulnerability.

By the same token it is logical to suppose that in a large percentage of cases of unilateral renal tuberculosis the bacilli reach both kidneys, but that in the vulnerable kidney the process is progressive while in the other the infection is overcome before it extends to the medulla. We can hardly escape the conclusion that when tubercle bacilli are present in the blood stream in sufficient numbers to infect a kidney, probably they are carried to the opposite kidney as well as to other organs; but that there exists a special reason or factor that enables infecting organisms to gain a foothold in that particular kidney.

SUMMARY

1. Where a tuberculous lesion has advanced to the renal pelvis or collecting tubules, renal tuberculosis never completely heals because of the handicap of hindered drainage and back-pressure, due to tuberculous changes in the ureteral wall; that is to say that, aside from other possible reasons, a tuberculous kidney excreting tubercle bacilli cannot recover because an incurably strictured ureter interferes with normal drainage and peristalsis.

2. When complete healing does occur, the tuberculous process is limited to the cortex, *i. e.*, has never extended to a pyramid or collecting tubules.

3. Until the tuberculous process has extended to a calyx or the collecting tubules, pus and tubercle bacilli of renal origin will not be found in the urine and therefore, up to this time, renal tuberculosis cannot be said to have been "clinically established."

1930 Wilshire Boulevard.

DISCUSSION

EDWARD L. KEYES, M.D. (Department of Clinical Surgery-Urology, Cornell University Medical College, New York City).—Some of the observed facts concerning the healing of renal tuberculosis are:

1. At tuberculosis sanatoria routine repeated examination of urine from patients with active pulmonary tuberculosis will occasionally reveal tubercle bacilli and, more rarely, tubercle bacilli and pus.

2. When such patients are followed to autopsy the bacilluria cases as a rule show no tuberculous renal

lesion on routine pathological examination. The pyuric cases show tuberculous lesions somewhere along the urinary tract.

3. The urologist occasionally encounters cases of arrested renal tuberculosis in the form of:

(a) Complete silent caseation of a kidney whereby its function is totally lost, though if the process has not extended to the ureter and if there is no mixed infection the patient may die without recognizable symptoms or detriment due to this lesion;

(b) Partial or temporary healing of active clinical tuberculosis of the kidney; I have reported two cases, one with an entire remission in symptoms for six years, the other a remission for three years, both submitting to nephrectomy for recurrence of active lesions.

(c) Unexplained cases fully diagnosed as active surgical tuberculosis whose symptoms cease over a long period of years and who refuse further examination.

(d) Pus and tubercle bacilli are obtained by ureter catheter from each kidney. One kidney is removed. The patient is not technically reexamined. He remains clinically well for a period of more than ten years.

4. All of these occurrences are extremely rare. I have followed over two hundred cases of renal tuberculosis. I have seen three "pathological nephrectomies," one of which had begun to show activity, which required surgical nephrectomy. I have not noted any other clinical remissions as prolonged as those I have reported. I have observed one case of unexplained prolonged remission of tuberculosis in one kidney and one in the remaining kidney after nephrectomy for tuberculosis.

5. Nephrectomy for tuberculosis is an operation with extraordinarily low mortality. This has varied in my experience and that of others from two to five per cent in large series of cases. Except for prolonged healing of the wound which complicates about five per cent of the cases, the convalescence from operation may be expected to be entirely peaceful; much more so, for example, than convalescence from nephrotomy for stone. Refusal of nephrectomy for the cure of unilateral tuberculosis means that the patient is willing to face the prospect of a miserable death from bladder tuberculosis with not more than a two per cent possibility of escape.

6. For twenty years urologists have demanded of the medical men who encourage nonsurgical treatment of renal tuberculosis a justification in the form of a postmortem pathological specimen of surgical renal tuberculosis that showed evidence of complete healing without complete destruction of the kidney. Such a specimen has not been forthcoming.

7. It is for these reasons that the urologist refuses to accept medical treatment in substitution for nephrectomy.

8. Nevertheless it is sometimes profitable to spend a number of weeks in establishing a precise diagnosis of renal tuberculosis and it is not justifiable to perform nephrectomy for bacilluria without pyuria or deformity of the renal pelvis.

9. An interesting theory covering the origin and development of renal tuberculosis is that of Medlar, who made serial sections of the kidneys of patients dying from pulmonary tuberculosis. He found cortical evidences of multiple tuberculous inoculation of both kidneys as mentioned by Doctor Day. These lesions showed either—

(a) Regression and healing without caseation (and in some instances this was associated during life with bacilluria); or

(b) Caseation, or suppurating because of mixed infection. These lesions extended to and broke into the pelvis, discharging pus and tubercle bacilli.

Class (a) may be termed medical renal tuberculosis. It is characterized by being bilateral and showing rare tubercle bacilli, but no pus in the urine. Class

(b) is surgical tuberculosis characterized by pus in the urine at least at times. (One exceptionally sees extensive renal tuberculosis without pus or tubercle bacilli in the urine during periods of inactivity.)

10. Medical tuberculosis is characterized by a normal pyelogram; surgical tuberculosis by an abnormal pyelogram.

11. Surgical tuberculosis at onset is habitually unilateral because:

12. Medical tuberculosis may heal in both kidneys—usually heals in one.

13. Surgical unilateral tuberculosis calls for nephrectomy to save the patient from a miserable death by bladder tuberculosis.

✱

ARTHUR L. CHUTE, M. D. (Department of Urology, Tufts College Medical School, Boston, Mass.)—Doctor Day's paper has been of especial interest to me since it brings up some of the points that I considered in a paper I read before the American Urological Association in New York in 1920. I believe, as does Doctor Day, that the tuberculous infection of a kidney must always be secondary to some other tuberculous lesion of the body, and that the only way the infection can reach the kidney is through the blood stream. Furthermore, we both believe that it is practically impossible for all the tubercle bacilli that are thrown into the blood stream, from the primary focus, to be carried to one kidney, that though both kidneys probably receive a more or less equal number of bacilli, but one is infected in about 65 per cent of the cases, due to the fact that there must be some condition of lowered resistance in one kidney that does not exist in the other. This may be an anatomical variation or some more or less intangible thing that produces a lowered resistance in one organ. I agree with this, but I also think that kidneys have a considerable power to combat a beginning tuberculous infection, especially one that takes place in the cortex, and cited in my paper two cases of patients with vague discomfort in one loin, in each of which a radiograph unfortunately showed a small round shadow which moved with the kidney; in one of these I curetted the small calcified area and stirred up what was evidently a healing tuberculosis, so that a nephrectomy had to be done shortly after and the man was ill for about a year with various tuberculous manifestations; the other patient was similarly treated by another man and led to a fatal dissemination of tuberculosis in a few weeks. I cited these cases as ones in which a beginning tuberculous process was being stamped out until nature's healing process was interfered with. I believe this is what happens more or less often in a beginning renal tuberculosis and we know nothing about the infection.

Doctor Day rightly says that after a tuberculous renal infection has reached the stage where pus and tubercle bacilli are found in the urine, the process is rarely cured in the way that we see cure in other renal suppurations: that is, cicatrization of the lesion with a secreting kidney. He attributes this progression of the process to the influence of back-pressure, due to the thickened ureter, or to a tuberculous stricture of the ureter. When present this obstruction may be a factor, but in a certain number of cases I have removed a badly infected tuberculous kidney where a ureter catheter passed up the ureter without obstruction and when at least the upper part of the ureter was so thin and flexible that I hesitated to cut it. When, and if present, I do not doubt that a thickened and strictured ureter may add to the destructive process. On the other hand, it has been in the instance of ureters that were thickened to the point of being occluded that I have seen so-called autonephrectomy take place; in one instance of this sort the patient, from the history, had gone five to six years without symptoms with a shut off right ureter. As it

became painful after that time I did a nephrectomy, finding a completely shut off kidney. She died eleven years later, supposedly of Addison's disease of the other side. No autopsy was obtained.

I believe the "unfailing and ultimate" destruction of the tuberculous kidney is due to the fact that we can only recognize renal tuberculosis when pus and tubercle bacilli are in the urine and when, therefore, it is really relatively advanced; that the beginning cases are the ones to which I have referred. I do not agree with the first conclusion of the writer's summary that a strictured condition of the ureter is the chief reason for the inexorable progress of a renal tuberculosis once it has advanced to the point where it is recognizable. Besides the above this condition of thickened ureter is not always present in a progressive case. With the writer's second point I agree perfectly, but I should put it in a little different way, namely, that tuberculous infections of the cortical part of a kidney are presumably more common than we suppose and many get well of themselves without being recognized. I quite agree with the third heading of his summary, and hope the time will soon come when we shall have symptoms to guide us to the recognition of the incipient stage of renal tuberculosis. In my belief, though I cannot prove it, many of these patients recover without treatment, and if we could only recognize the condition and give them proper hygienic treatment I think we would greatly diminish the really advanced cases which I believe are the only ones we recognize surgically, and which must, as a rule, be treated by nephrectomy. Doctor Day's paper brings up certain hypotheses that need more observation and study than we have given them.

✱

ALEXANDER RANDALL, M. D. (Department of Urology, University of Pennsylvania School of Medicine, Philadelphia, Pa.)—Doctor Day has put upon a logical and clinical basis ideas and facts that experimenters have long tried to impress upon clinicians. In 1917 Noel Hallé (Presse Médicale) presented the first acceptable classification of renal tuberculosis on a biological basis. His pathological classification was almost too simple (as compared to those in current textbooks) for its immediate acceptance. His work, however, has since been repeated and amply substantiated by subsequent students of the problem. Hallé allowed but two types of chronic renal tuberculosis (all agreeing as regards the acute miliary disease). The first is chronic closed parenchymatous renal tuberculosis, and the second, chronic open pyelitic renal tuberculosis. Note, if you will, the careful incorporation of the adjectives "closed" and "open." It is the latter variety (the chronic open pyelitic renal tuberculosis) that Doctor Day identifies as being "clinically established" and he is right; others call it "surgical" renal tuberculosis, while all recognize it as a progressive, destructive, and incurable lesion. Surgery is its only hope and, fortunately, it is predominately unilateral in its early stages. The first variety (chronic closed parenchymatous renal tuberculosis) holds out interest when Hallé states that 33 per cent of these cases heal spontaneously, and says we fail to recognize in the so-called renal infarcts the scars of healed parenchymatous tuberculosis. Doctor Day has shown you how, clinically, in this type the evidences in the urine are scarcely recognizable and perhaps we are right in calling it, for contradistinction, "medical" renal tuberculosis, for until our diagnostic methods advance, its clinical recognition is presumptive only and its treatment expectant and medical. If the profession grasps these hard but simple facts, founded upon competent research and clinical investigation and study, the delay in operating upon an inevitably progressive lesion will be decreased, with a prevention of complications and spread of disease, while the ultimate relief and cure will be proportionately increased.

DOCTOR DAY (Closing).—I am especially privileged in that three such renowned authorities as Doctors Chute, Keyes, and Randall should discuss my small contribution concerning one phase of renal tuberculosis.

Some observations of Doctor Chute's (President's Address, American Urological Association, *Journal of Urology*, May, 1921) were the starting point of this hypothesis, which after all is intended as a simple clinical clarification of some aspects of renal tuberculosis in conformity with Hallé's conception of its pathology.

The reader should clearly recognize the full import of one sentence especially, as stated in my paper, viz.: "When pus and tubercle bacilli of renal origin are found in the urine, renal tuberculosis may be said to be 'clinically established.'" The proof that the pus and tubercle bacilli are of renal origin is often a highly technical urologic procedure and its comprehensive discussion is out of place here. Suffice it to say that tubercle bacilli, having their source in the genital adnexa, may be present in the urine with absolutely no lesion in the kidney. Even tuberculosis of the lower ureter has been observed in a few instances with no involvement of the kidney whatever, perhaps carried upward from the genital adnexa through the lymphatics.

Doctor Chute states that he disagrees with the postulate that a strictured ureter is the chief reason for the inexorable progress of renal tuberculosis. I shall have to modify the title of my hypothesis slightly to meet his sound objection. He believes that by the time the condition is clinically diagnosed the process is so extensive that recovery is quite impossible. What, subconsciously, I meant to convey, and should have stated in my title is, "Why clinically established renal tuberculosis cannot recover." For if it were otherwise possible for any case of renal tuberculosis to heal completely, the tuberculous ureter would constantly threaten any remaining chance for the kidney to recover, even if nature had successfully negotiated all other hurdles. Israel, eminent German urologist and urological pathologist, among numerous other observers, endorses Caspar's statement that "In renal tuberculosis of long standing the ureters invariably become diseased."

In order to make my paper lucid and avoid confusion, I purposely avoided discussing the exceptions. But the exceptions prove the rule. Doctor Keyes brings them up in the mention of remissions and autonephrectomy. In his two cases where long remissions were noted, nephrectomy, however, was necessary in the end, because the kidney had never healed completely. His autonephrectomy cases with clinical cure comprised one per cent of the total, perhaps higher than the average. Crenshaw, in a review of 1,817 cases observed at the Mayo Clinic, reports only a few cases of total calcification and autonephrectomy which were not nephrectomized and over an average period of thirty months were classed as "practically well" or "improved." These cases comprise only four-tenths per cent of the total number. Neither remissions nor autonephrectomies constitute cures, that is to say, complete healing. In autonephrectomy cases the incidence of metastases through the blood stream, such as acute miliary tuberculosis, tuberculous meningitis, etc., is itself proof of the fallacy of the doctrine of healed lesions in such instances, as stressed by Wildbolz.

Tubercle bacilluria with pus, of which Doctor Keyes speaks, has been reported in sanatoria cases as he says. The overwhelming consensus of opinion is that where the bacilli are of renal origin there is an ulcerative tuberculous lesion in the kidney which was overlooked at autopsy. Medlar is very emphatic on this point. Medlar's careful serial sectioning, which for persistency, thoroughness, and conscientiousness is unexcelled, would have probably demonstrated tuberculosis in such kidneys, and in those which Wildbolz classifies as "tuberculous nephritis." In series of over 1,000 observed cases, 660 of which he nephrectomized,

Wildbolz was able to report, however, only four cases which he himself classed as tuberculous nephritis that had gone over a five-year period—less than one-quarter per cent. His criteria for diagnosis are sparse tubercle bacilli demonstrated by guinea-pig inoculation but undiscoverable in stained smears from the urine. A further proviso is that the urine is free of pus cells. The slight incidence as well as the doubtful findings in such instances make them practically negligible, and certainly no right-minded urologist would consider such meager positive findings sufficient warrant for a nephrectomy. Histologically he finds only rounded and leukocytic infiltration with fibrosis, but no tubercles. He admits it is a tissue reaction to tubercle bacilli, and is therefore a tuberculous process. Perhaps such patients possess an unusually high degree of immunity which accounts for the benignity of the condition.

In my interpretation of "never," I should have said "rare" instead of "exceedingly rare." The exceptions occur in less than one per cent of cases.

In conclusion, I wish to thank the three distinguished urologists who have taken time off to prepare considered discussions.

BACTERIOPHAGE METHOD OF TREATMENT OF INFECTED WOUNDS*

By FRED H. ALBEE, M. D.
New York, N. Y.

THE infected wound is undoubtedly one of the most difficult and most common problems in the history of medicine. The search for the ideal wound treatment is centuries old, ranging all the way from the ashes and natural balsams of primitive man, the incinerated toads and boiling oil of the Middle Ages, to the familiar Bipp treatments and Carrel-Dakin irrigations, employed so extensively in the late war, and the present-day use of maggots. It seems scarcely credible, in our modern stage of scientific advancement, that a method of wound treatment which may revolutionize all our previous concepts could be devised, yet I believe the bacteriophage to be just such a method.

FACTORS IN SUCCESS OF RECONSTRUCTION SURGERY

One of the greatest handicaps of the reconstruction surgeon is the recrudescence of latent infection in such cases. In fact, it can be safely said that the success of reconstruction surgery depends, in many instances, on the method of treatment of the original wound. One of the most frequent forms of bone infection which the surgeon of today may encounter is osteomyelitis. Nearly everyone is familiar with the treatment of this condition proposed by Dr. H. Winnett Orr in 1923. Violating the traditions of free drainage, he packed the saucerized wound with vaselin and vaselin gauze and enclosed it in a plaster cast which was left undisturbed for weeks. Obviously the process was sound, for soon after operation the patient's temperature dropped to normal, and upon removal of the cast the wound was found to be covered with healthy red granulation tissue. However, Orr's explanation (rest, immobiliza-

tion, and avoidance of reinfection) did not seem to me to account for the marked success of the treatment. After close observation of several cases, I became convinced that some unusual phenomenon was taking place. It seemed to me that practically the same conditions were created under this cast as occurred naturally in the bacterial culture tubes of D'Herelle, the French bacteriologist at Yale, who, in 1921, discovered an ultra-microscopical parasite which appeared spontaneously in a culture of dysentery bacilli and which he called the "bacteriophage." He further demonstrated by laboratory experiment that there were several varieties or "races" of 'phage, each with a preference as to the type of bacteria it would destroy. Was it not quite possible that a native bacteriophage had multiplied and become active under the long-continued dressing of vaselin and vaselin gauze?

By careful laboratory search and tests,[†] it has been established that a specific 'phage appears spontaneously in about 94 per cent of cases of acute and chronic osteomyelitis. In three of the remaining six per cent in which the 'phage does not appear spontaneously, the laboratory has been able to supply us with a 'phage specific for the organism in question. But in the other three per cent, it has, so far, been unable to do so. This is especially true of the *Streptococcus hemolyticus*, and in these cases we have adopted a policy of watchful waiting. In several instances the desired 'phage has later appeared in the wound spontaneously and healing has occurred. It is hoped that with the perfection of laboratory methods and increased knowledge of the 'phage it may be possible to isolate races of 'phage specific for each bacterium in all cases.

'PHAGE THERAPY IN OSTEOMYELITIS

In cases of osteomyelitis, both acute and chronic, I now make use of the following method of treatment. I do not use iodine or alcohol lest they interfere either with the development of the spontaneous 'phage or with the specific laboratory-bred 'phage after its introduction. In place of the vaselin and vaselin gauze dressing, I am using paraffin with a dash of yellow vaselin, or sufficient vaselin to produce a semi-solid wound tampon. This varies from 90 per cent paraffin—10 per cent vaselin to 75 per cent paraffin—25 per cent vaselin.

The treatment of a group of cases comprising the various complications of osteomyelitis such as compound infected fractures with osteomyelitis, suppurative joints with osteomyelitis, etc., entails a multitude of considerations. In most of these cases we have deep wounds extending into the bone, with varying degrees of infection. The wound dressing, or tampon, should have a degree of solidity sufficient to restrict the tendency of the orifice at the dermis to close earlier than the depths of the wound. Furthermore, this tampon

* A guest speaker paper read before the general meeting of the California Medical Association at the sixty-first annual session at Pasadena, May 2-5, 1932.

† For help in which I am indebted to Dr. Ward MacNeal and Miss Marjorie Patterson of the New York Post-Graduate Hospital.

should be such that it can be inserted in practically a fluid state, in order to have uninterrupted access to every recess of the wound; it should then become semi-solid, thus tending to conserve its original contour, avoid adherence to the bone, and, bit by bit, extrude automatically as granulations fill up the depths of the wound and as the contractions of cicatrization demand.

If the consistency of the tampon can be thus altered by changing the relative amounts of the ingredients comprising it, early extrusion can be avoided in wounds of great depth and, conversely, can be favored in shallow wounds where earlier closure is desirable. With these requirements in mind, I have in my later cases been using different mixtures of paraffin and yellow vaselin, depending on the nature of the wound. In deep wounds yellow vaselin and paraffin may be used in a strength of one to ten; in suppurative wounds, where early closure is desired, the mixture is one part of vaselin to four parts of paraffin. The mixture is always put into the wound in a melted state, at about 110 degrees Fahrenheit, accomplished by immersing the jar containing the mixture in a water bath for some time before it is used. It is then inserted into the wound by means of a large syringe. I have been more satisfied with this dressing than with the vaselin-vaselin gauze for several reasons: (a) It is impossible to control the consistency of the vaselin-vaselin gauze dressing satisfactorily; (b) the vaselin gauze is quite apt to become adherent to bone at the bottom of the wound and so resist extrusion of the tampon and delay healing; (c) the wound granulations are likely to strangulate through the meshes of the gauze. None of these complications ever happens with the vaselin and paraffin dressing, which, because of its slippery surface, always extrudes satisfactorily, acting in a manner apparently somewhat similar to the Bipp tampon. Furthermore, the bacteriophage is just as apt to occur spontaneously as with the vaselin-vaselin gauze, namely, in about 94 per cent of the cases.

ADVANTAGES OF THE DRESSING

I have been unable to find any shortcomings of this dressing as compared with either the Bipp or the vaselin-vaselin gauze of Orr. Bipp, however, is contraindicated because of the possible unfavorable chemical action of the iodoform upon the bacteriophage. A summary of the advantages of this dressing follows:

1. It is simple in its application, requiring a minimum amount of hospitalization and necessitating a minimum amount of labor on the part of the surgeon and his staff.

2. It does not interfere with the immobilization of the part as, for example, in the case of a compound infected fracture or suppurating joint, nor does it favor edema of the granulations or the soft structures because of inequality of pressure at, or in the immediate neighborhood of, the wound, since there is no window in the cast. This is quite contrary to the Carrel-Dakin or maggot method of treatment, both of which must, of necessity, have a window in the cast. I believe that a uniform pressure over the wound and neighboring tissues, such as this new method affords, will avoid exuberant granulations and edema, an important con-

sideration in the healing of a wound. This is particularly emphasized in the resistance to healing of varicose ulcers.

3. The paraffin-vaselin tampon automatically yields to the encroachment of granulation, healing, and closure of the wound, thus gradually extruding and keeping up a physiological pressure upon the surface of the wound at all times. This is more effective than frequent dressings by the surgeon and, in addition, avoids the possibility of reinfecting the wound by foreign bacteria.

4. This dressing is favorable to the appearance of the native bacteriophage and to the periodic introduction of the laboratory-bred 'phage by means of a catheter or rubber tube inserted through it into the depths of the wound. This tube is put in place at the time of operation or dressing and permanently incorporated in the plaster.

A detailed report of cases treated by this method will be published.

OTHER INDICATIONS FOR 'PHAGE THERAPY

In addition to its application to infected bone wounds, bacteriophage has proved a most efficacious specific agent in combating such lesions as furuncles, boils, carbuncles, and phlegmons. It may be applied in two ways: (1) thoroughly rubbed over the surface of the wound and the lesion then covered by sterile pads soaked in bacteriophage; or if the lesion is of extensive size or depth it may be dressed with the paraffin and vaselin tampon with catheter incorporated for periodic introduction of bacteriophage; (2) it may be injected subcutaneously by a hypodermic needle about the periphery of the lesions. In bacteremia, particularly *Staphylococcus aureus*, a bacteriophage culture, prepared with asparagin as a medium and injected into the blood stream has, in the hands of Doctor MacNeal,[‡] reduced the mortality to less than 50 per cent, even when there have been two positive blood cultures. Not only is the bacteriophage a successful therapeutic agent but it has the added advantage of helping to establish a possible immunity on the part of the patient.

The excellence of the results should make this new method of wound treatment unquestionably preferred by all those who have experienced its advantages over former methods. I believe that this active living agent, bacteriophage, will eventually be one of the surgeon's greatest weapons against his old enemy, infection. To this end, I hope to stimulate the interest of the surgical world in a phase of bacteriology which will have a profound influence on the future treatment of surgical infections.

57 West Fifty-seventh Street.

REFERENCES

1. Orr, H. W.: A New Method of Treatment for Infections of Bone, Tr. Sect. Orthopedic Surg., J. A. M. A., 1923.
2. D'Herelle, F.: The Bacteriophage and Its Behavior. Baltimore: Wilkins and Williams, 1921.
3. MacNeal, W., and Frisbie, F.: Bacteriophage as a Therapeutic Agent in *Staphylococcus* Bacteremia. Meeting of American Association of Pathologists and Bacteriologists, Philadelphia, April 28, 1932. (Paper presented.)

[‡] New York Post-Graduate Hospital.

CANCER OF THE RECTUM*

By DUDLEY SMITH, M. D.
San Francisco

DISCUSSION by Stanley H. Mentzer, M. D., San Francisco; John W. Cline, M. D., San Francisco; Clarence G. Toland, M. D., Los Angeles.

THE classical studies of W. Ernest Miles of London upon the modes of extension of cancer of the rectum, and especially upon the zones of lymphatic spread, have demonstrated to the medical profession the futility of the older methods of operation. In closing his first Lettsomian lecture before the Medical Society of London, February 19, 1932, he said:

"It will be seen that the ischio-rectal fat, the levatores ani muscles, the pelvic peritoneum, and the pelvic mesocolon are the tissues which are chiefly concerned in the spread of cancer of the rectum. Pathology teaches us that they may be the seat of metastatic deposits even when the growth in the rectum is in a clinically early stage, and that unless these highly dangerous tissues are completely removed in every case in which an operation for the removal of the cancerous rectum is undertaken, postoperative recurrences will be a rule to which there will be few exceptions."

The medical profession, and indeed the laity, owe a deep debt of gratitude to Mr. Miles for the outstanding work he has done in this field, and anyone who talks on cancer of the rectum must necessarily lean heavily upon his research. He has proved that it is necessary to do a radical block dissection, which includes all of the three zones of spread, the downward, the upward, and the lateral, if recurrence is to be avoided in any large percentage of the cases operated upon.

DIAGNOSIS

Of late years these lesions have been discovered, on the whole, earlier than in the past because the laity and the medical profession have been given a large amount of information upon this subject by many writers, outstanding among whom is Daniel F. Jones of Boston, but there is still much to be done before the medical profession as a whole can point with pride to the early recognition of cancer of the rectum in cases coming under its care.

That the physician may be on his guard let us consider what are the early symptoms of cancer of the large bowel. Any change in bowel habit or sensation should cause the physician to suspect trouble. The rectum is a silent area and a growth usually gives no symptoms for the first six months, but even during this time there may be slight irritation or change in the character or frequency of the bowel movements. During this early period there may be a little discomfort in the rectum or a little more frequent urge to defecation. When the lesion is at the rectosigmoid junction, rapid increase in constipation is a not infrequent symptom because the lumen of the gut is small and the growth constricts early. Distention of gas and colicky pains are also frequently

complained of. If the abdominal wall be thin, peristaltic waves will probably be seen. When blood appears in the bowel movement it should be an imperative command to the physician to immediately find its source.

If hemorrhoids which are bleeding or might bleed have been found, the physician cannot be absolved from blame if he does not investigate higher up and make sure that there is no other lesion from which the blood is coming. It is all too common an error to take it for granted that blood comes from hemorrhoids and prescribe some suppositories without examination. Students should be taught and the medical profession should learn to know that blood from the rectum should be considered as coming from a malignant growth until such is ruled out.

Cancer of the rectum can be discovered by digital examination alone in a very large percentage of cases, and this procedure should certainly never be neglected. The physician should heed the dictum of a well-known professor of medicine who said to his students: "Put your finger in the rectum, or you may later find you have put your foot in it."

Diagnosis of cancer of the rectum and rectosigmoid is easily made in 100 per cent of the cases, but this diagnosis cannot be made by laboratory examination of the stools and rarely by barium enema and x-ray unless the condition is far advanced and constriction present. The proper routine of examination is: first, digital; second, anoscopic; third, proctoscopic; and then if the lesion is above the range of the proctoscope a barium enema and x-ray examination will almost always reveal it. It is a mistake to order a barium enema first and then proctoscopic examination. This should be reversed. Lesions above seven inches are usually revealed by the x-ray, but no lesion below seven inches from the anus is likely to be discovered unless it is far advanced and stricture is present.

TREATMENT

Permanent colostomy is essential to success in the operative treatment of cancer of the rectum, no matter what operation is decided upon for the individual case. Unfortunately the laity and a large part of the medical profession have an exaggerated fear of colostomy. I have heard doctors in medical meetings say that they would rather die than have a colostomy. When such a statement has been made I have always felt that the person who made it knew very little about a properly constructed colostomy and much less about its proper care. As a matter of fact a properly constructed, well placed and properly cared for colostomy causes the patient comparatively little inconvenience and this statement is based upon the opinions of a large number of patients who have such colostomies. When I explain to a patient that a permanent colostomy will be necessary I am in the habit of referring him to one or two patients who have had the operation and are living happy and contented lives. I tell the patient that these others have come over the trail before him and can tell him precisely how little trouble

* From the Department of Surgery, University of California. Read before Surgical Section, California Medical Association, at the sixty-first annual session, Pasadena, May 2-5, 1932.

and inconvenience he will encounter on the way. I rarely have a patient refuse the operation after talking with those who have had it.

Three types of operation are now in general use, viz.:

1. Posterior resection, preceded by colostomy.

2. Abdominoperineal resection in one stage.

3. Abdominoperineal resection in two or three stages.

Posterior resection done ten days or two weeks after colostomy, is considered the operation of choice by many surgeons because it has shown a lower primary mortality than the abdominoperineal resection. The great disadvantage of the operation is that recurrence will follow in a much larger percentage of cases than in the abdominoperineal procedure. In my opinion, it should be restricted to patients who are thought to be unfitted to withstand the more radical procedure by reason of advanced age or poor condition from other causes.

Few, if any, surgeons will disagree with the statement that the abdominoperineal resection with permanent colostomy should be done whenever possible. Mr. Miles has proved that a much smaller percentage of recurrences will follow this operation in which the lower sigmoid and the sigmoid mesentery are entirely removed than will follow the operation of posterior resection, in which operation the dangerous tissues of the mesosigmoid cannot be removed. If the primary mortality in the abdominoperineal resection could be reduced to that of the operation of posterior resection following preliminary colostomy, all surgeons would agree that the more radical procedure should be used. The effort, therefore, in the last few years has been to reduce the primary mortality of the more extensive operation. I believe that this has been largely accomplished. Even the one-stage abdominoperineal resection has been accomplished with a primary mortality comparable to the less extensive operation, by some surgeons. I believe, however, that the two-stage procedure will result in a lower primary mortality in the hands of the average surgeon.

The chief objection urged against the two-stage procedure has been that good drainage could not be secured and that during the interval between the first and second stage a large amount of purulent toxic material would accumulate in the pelvis

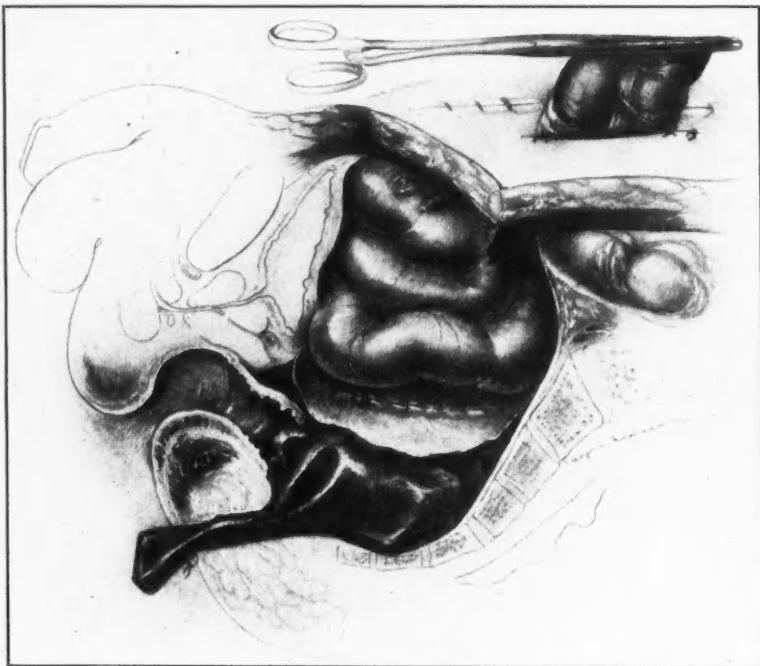


Fig. 1.—The pelvic peritoneum has been closed over the rubber dam which has been folded over the stump of the rectum and a corner of the rubber dam drawn out through an incision alongside the tip of the coccyx for drainage. Author's clamp on the stump of the rectum is shown through the rubber.

and gush out when the posterior resection was done at the second stage. To this lack of drainage could be attributed much of the toxemia, peritonitis, and therefore, mortality following the first stage. This has been entirely avoided by the type of drainage I have used for the past three years, which is shown in the illustration. This drainage was suggested to me by Dr. Stanley Mentzer, who should have the credit for it.

At the present time the two-stage procedure should be accomplished with a primary mortality of less than 10 per cent. The factors which have contributed to the lowering of the primary mortality in the radical abdominoperineal procedure have been the use of spinal anesthesia, more careful preliminary preparation of the patient, transfusion, vaccination against peritonitis, and good drainage.

For patients who are in poor condition and have suffered from marked stasis and obstruction a distinct forward step has been accomplished by Lahey¹ and also by Bartlett² and Rankin³ in their recently reported operations, wherein a preliminary single-barrelled colostomy is done at the first stage, the patient allowed to return home and build up in general health before the major procedure of abdominoperineal resection is attempted. These operations differ in technique but accomplish the same purpose, and the second stage in the Lahey operation may be divided into two stages if the condition of the patient seems to preclude removing the entire rectum and sigmoid at the second stage. These operations have the disadvantage of opening the abdomen twice, but the primary mor-

tality reported would indicate that this is not a serious objection. There can be no question that it is an advantage and a safeguard to secure proper functioning of the colostomy prior to the major procedure in patients who are in poor condition.

INOPERABLE CASES

Under the heading of inoperable cases I include not only those in which metastases have taken place that cannot be removed and the local growth is so far advanced that complete removal is not feasible, but also those cases in which the condition of the patient's health, because of age or general condition, precludes a radical procedure. In such cases much comfort will be given the patient by an early colostomy. I am in entire accord with Miles,⁴ who says: "From my experience of these cases I am convinced that as soon as carcinoma of the rectum is found to be inoperable, every day lost before resorting to colostomy is a day to the bad."

Following colostomy, deep x-ray therapy, and the application of radium are often very valuable palliative procedures.

I prefer for these cases the Sistrunk⁵ type of colostomy in which the two arms of the gut are separated by an inch of the entire abdominal wall.

If these inoperable cases are in sufficiently good condition and the local growth has not advanced to the point of complete fixation, the question should be carefully considered whether the primary growth should be removed even though there be metastasis to the liver or extensive glandular involvement. I am in accord with the views of Jones on this subject. He believes that we are justified in removing the local growth under these circumstances if the patient can be given six months of comfort. As a matter of fact this procedure will result in more than a year of comfort in many cases. One of my patients who had a large metastatic nodule an inch and a half in diameter in the liver at the time of the abdominoperineal resection gained forty pounds, was in perfect health for twenty-three months and was only sick about six weeks prior to his death. Jones told me of a patient of his who lived eight years under similar circumstances. There is no question that the patient will be much more comfortable if it is possible to remove the local growth.

909 Hyde Street.

REFERENCES

1. Lahey, F.: Surg. Gynec. and Obst., 51:692, No. 5 (Nov.), 1930.
2. Bartlett, W. and W., Jr.: Arch. Surg., 22:786-793 (May), 1931.
3. Rankin, F. W.: Surg. Gynec. and Obst., 53:670, No. 5 (Nov.), 1931.
4. Miles, W. E.: Surg. Gynec. and Obst., 52-2A:554 (Feb.), 1931.
5. Sistrunk, W. E.: Surg. Gynec. and Obst., 28:436-439, No. 5 (May), 1919.

DISCUSSION

STANLEY H. MENTZER, M. D. (450 Sutter Street, San Francisco).—Dr. Dudley Smith's article presents a

sane and hopeful outlook for the patient suffering from cancer of the rectum.

There are many choices in the operative attack upon cancer of the rectum, but I have found none so successful as the operation which Doctor Smith has initiated. It has been my good fortune to do a few cases myself and to help Doctor Smith with twenty-two operations of his own. I feel quite certain that as others become familiar with Doctor Smith's technique, his method will become preferable for those who are engaged in rectal surgery.

The method of drainage which is now used consists of a large rubber dam, almost half a yard square, which is draped about the proximal portion of the distal segment of the rectum before the peritoneal floor is made. One or more corners of this tent-like covering are then brought out through an incision made lateral to the coccyx. In this way the desquamation of tissue which follows ligation of the superior hemorrhoidal artery is adequately drained by gravity, and possible leakage from the rectal stump is enclosed by the rubber dam tent so that it is virtually impossible for retroperitoneal dissection of exudates to occur. Furthermore, defects in the newly created peritoneal floor are not serious, for they become sealed over before any discharge can escape from below the rubber drain.

The basic principles of Doctor Smith's operation are simple and surgically sound, and when his method is mastered, resection of the rectum for cancer according to his plan is rapid, thorough, and unusually safe.

✱

JOHN W. CLINE, M. D. (490 Post Street, San Francisco).—Doctor Smith has given a clear presentation of the present status of carcinoma of the rectum. I agree with his opinions and would like to emphasize a few of the points he has made.

A large proportion of the cases of carcinoma of the rectum coming to the attention of the surgeon have advanced beyond the stage where the disease can be successfully dealt with by surgical methods. A small part of this responsibility rests with the layman for not consulting his physician concerning early symptoms of rectal disease. A greater responsibility rests upon the members of the medical profession. We must make every effort to impress upon the public the fact that bleeding from the rectum is a sign of disease for which a physician should be consulted without delay. The medical profession has also been justly criticized for the laxity of its methods of examination. Too frequently a history is obtained which tells of the patient being treated for hemorrhoids without thorough investigation. Since the responsibility for medical publicity and adequate examination rests upon us we cannot avoid censure for the large number of cases reaching an inoperable stage.

Rarely an attempt to preserve the sphincter can be justified, but it is far better to sacrifice the sphincter than the chances of the patient to avoid recurrence. For practical purposes it may be said that adequate treatment of carcinoma of the rectum demands a permanent colostomy.

Frequently patients have a horror of abdominal colostomy. Occasionally the disagreeable features of colostomy have been unduly impressed upon the patient by his physician. An abdominal colostomy properly constructed and well cared for is the best substitute for a natural anus which has been developed. It possesses many advantages which the perineal artificial anus lacks.

The choice of operation must be largely decided by the operability of the growth, as determined by the degree of local fixation and the existence of demonstrable metastases, and the ability of the patient to withstand a surgical procedure of considerable magnitude.

Simple colostomy, particularly with separation of the proximal and distal ends, will give the patient

with an inoperable lesion a considerable amount of relief.

Colostomy, plus posterior resection, should be the operation of choice for patients whose general condition is such that they could not be expected to withstand a combined abdominoperineal resection. It is also a satisfactory operation for very low growths.

From the standpoint of total eradication of the disease the combined abdominoperineal resection in one stage is probably the operation of choice. It is a surgical procedure of first magnitude and should be undertaken only with patients in excellent general condition.

A combined abdominoperineal resection in two stages is the best alternative and is the operation of choice in the vast majority of cases. It has many variations. The early high mortality attributed to it was due to the infection occurring beneath the newly constructed pelvic floor resulting from the deprivation of blood supply to the portion of the colon to be removed. The type of drainage suggested by Doctor Smith, and subsequently advocated by Miles, answers most of the criticisms of the two-stage procedure. I have had an opportunity to follow several cases in which this type of drainage has been used and agree with Doctor Smith that it adequately takes care of the element of infection. I believe that it will do more to maintain the mortality of this operation at a low level than any other single factor in technique.

✱

CLARENCE G. TOLAND, M. D. (902 Wilshire Medical Building, Los Angeles).—The satisfactory surgical management of tumors of the left colon, particularly of the rectosigmoid and rectal area, has been and is a problem that has intrigued the interest of our best surgical minds. Not so many years ago the individual who was unfortunate enough to be afflicted with a malignant rectal growth was given little encouragement, and his prospects for the future were very dark indeed. Palliative procedures, such as a simple colostomy, were offered, and only occasionally was an attempt made completely to eradicate the neoplastic process by a posterior resection.

The colostomies were frequently so poorly placed and constructed that their care was a heavy burden to the patient, and more likely than not he shunned his friends and was ostracized from society.

The posterior resection was a formidable procedure, entailing a heavy mortality, and many cases suffered from the disability incident to excision of the coccyx and part of the sacrum. The percentage of early recurrence was high and on the whole the results were most discouraging.

With the advent of the combined abdominal and perineal resection the situation improved and as the technical difficulties have gradually been overcome we have been able to offer our patients a reasonable chance for a cure. The postoperative disability has been materially lessened, allowing the individual the pleasures of society and the normal pursuit of his occupation.

A number of operative procedures have been devised in accomplishing the abdominoperineal resection, and they all have merit, particularly when applied to selected cases. Perhaps in no other condition is the axiom "Fit the operation to the patient, and not the patient to the operation," so true as in cancer of the rectum. Dr. Dudley Smith has been a substantial contributor in this field, and I, personally, prefer the type of operation he advocates. The little clamps he has devised have greatly facilitated the resection and have enabled us to frequently perform the operation in one stage. The use of the cautery in the perineal stage of the excision has proved to be most satisfactory. When we think of patients with five-year cures who are able satisfactorily to follow exacting occupations such as teaching school or the ministry, we cannot but realize that definite progress has been made, and the men who have made this possible are to be congratulated.

CRANIOCEREBRAL INJURIES*

A STUDY OF TWELVE HUNDRED CASES

By DELBERT H. WERDEN, M. D.

Los Angeles

DISCUSSION by Howard W. Fleming, M. D., San Francisco; Cyril B. Courville, M. D., Los Angeles.

DURING the past decade frequent reports of large series of head injuries, both with and without skull fracture, have appeared in the literature. These have been prompted by the rapidly increasing number of craniocerebral injuries incident to modern life. The compilation of such reports is tedious and exacting, but in clinical experience and judgment statistics of this sort can be of considerable value.

CLINICAL MATERIAL FOR THIS STUDY

The material here presented consists of 1200 consecutive cases of head injury admitted to the neurosurgical service of the Los Angeles County General Hospital from July, 1929, to January, 1931, a period of approximately eighteen months. Rand and Nielsen¹ (1925) reported a series of 171 cases of proved skull fracture taken from 580 consecutive cases covering a period of approximately forty-one months from the same service of this hospital. The comparison of 580 cases occurring in forty months to 1200 cases in eighteen months shows the great increase in number of head injuries, as they are now five times as common as was the case six years ago, if one can judge by comparing two series of patients admitted to the same hospital.

The patients in this series were admitted to the service upon the basis, either of a history of head injury with loss of consciousness, even if that was momentary, or because examination by the admitting physician revealed evidences of a recent cranial injury. Patients are not included who left the hospital within a few hours without having had an x-ray examination of the skull, the period of observation being of too short a duration for inclusion in this series. The only fatal cases which were not included were those who died before an adequate physical examination could be done. Ninety-seven and a half per cent of the patients in this series received x-ray study, the only exceptions being patients whose condition was too critical to permit of this procedure. Few, if any, other series of head injuries which were reviewed received as high a percentage of x-ray study. Postmortem examinations were done in practically all fatal cases, as they came under the coroner's jurisdiction. Doctors Wagner and Schaefer carried out these examinations and permitted detailed microscopic studies in many of the cases. It should be added that one of the neurosurgical staff was present at about one-third of the postmortem examinations. Only four cases of the series were not autopsied; three were cases of obvious cerebral hemorrhage, and the fourth a severely depressed skull fracture.

* From the Neurosurgical Service of Dr. Carl W. Rand, Los Angeles County General Hospital.

¹ Read before the Neuropsychiatry Section of the California Medical Association at the sixtieth annual session, San Francisco, April 27-30, 1931.

TABLE 1.—*Etiology in Recovered and Fatal Cases and in Fracture Cases*

	1	2	3	4	5	6	7
	Total	Per cent	Auto Accident	Hit by Auto	Assault Blows	Falls	Others
Total No. all cases ...	1200	100%	424	438	97	160	171
Recovered ...	1100	92%	94%	92%	95%	88%	91%
Fatal ...	100	8%	6%	8%	5%	12%	9%
Number of fracture cases ...	371	100	125	107	28	57	54
Vault ...	103	28%	25%	35%	36%	21%	22%
Base ...	149	40%	45%	37%	39%	35%	40%
Vault and base ...	119	32%	30%	28%	25%	44%	37%

ETIOLOGY

The causes of head injury were found to fall principally into three groups, namely, one, automobile injuries; two, falls; and three, assaults.

Thirty per cent of the patients (125) who sustained fractures of the skull were injured while riding in automobiles. In about half of these 125 cases the fracture was in the base of the skull (Table 1, column 3). Bacon and LeCount² found that 34 per cent of the fractures in their series were in the vault, while 19 per cent were in the posterior fossa. This corresponds closely to the number of fractures (55 per cent) in my series which involved both of these areas. That the base is so frequently fractured may be due to the fact that in automobile accidents the impact to the vault is diffuse and the force is transmitted in greatest intensity to the weakened floors of the skull. Only 6.1 per cent of the people injured by automobile accidents died. Pedestrians (Table 1, column 4) comprise the largest single group of those suffering craniocerebral injuries. The incidence of fractures, however, is lower (25 per cent) in these injured pedestrians, who comprise 107 cases. This may be due to the fact that, when struck by an automobile, the patient in falling tends to protect his head. While skull fractures are fewer in pedestrians struck by automobiles, the mortality is slightly higher (8 per cent), showing that factors other than the head injury alone tend to cause death.

The automobile, in some manner, was directly responsible for the injury in 72 per cent of all the cases in the series here presented. A review of four series of head injuries by other writers over the period from 1918 to 1928 (Table 2) shows the relative increase of the automobile as

an etiological factor in causing injuries. My figures are much higher than those given by Vance³ (37 per cent) and McCreery and Berry⁴ (21 per cent). However, it must be borne in mind that all of Vance's cases were fatal, and, furthermore, that the period described by him covered the years from 1920 to 1926, while those described by McCreery and Berry covered from 1920 to 1928. My findings of increased percentage of those injured by automobiles may, in part, be due to lack of traffic regulation and, in part, to the greater use of motor vehicles.

Falls (Table 1, column 6) come next to automobiles as a cause of craniocerebral injury. The two together comprise 85 per cent of all causes. Falls of some description carry the highest mortality (12 per cent) and the greatest incidence of skull fracture (36 per cent). This may be due to the fact that the falling patient is unable to protect his head, and that the head nearly always strikes the ground or some other object. Of the fractures caused by falls, most involved the base (38 per cent) or the base and vault (44 per cent), while in a smaller number the fractures were confined to the vault alone. These figures suggest that in this type of injury the impact is unusually severe and that the resultant cranial damage is more extensive.

Assaults (Table 1, column 5) are the third most frequent cause of craniocerebral injuries, and are the least fatal (5 per cent). In these cases 36 per cent show fractures of the vault, while 39 per cent show fractures confined to the base. It was a surprise to find that a greater number of persons assaulted had basal fractures than had fractures confined to the vault, as one usually associates vault fractures with blows directed to the calvarium.

TABLE 2.—*Etiology—In Reports of Previous Years*

Cause of Injury	1918 LeCount and Apfelbach	1925 Rand and Nielsen	1926 Vance	1928 McCreery and Berry	1931 Werden
Automobile	48	83	189	110	862
Falls	219	25	156	179	160
Assaults, Blows	51	14	33	62	97

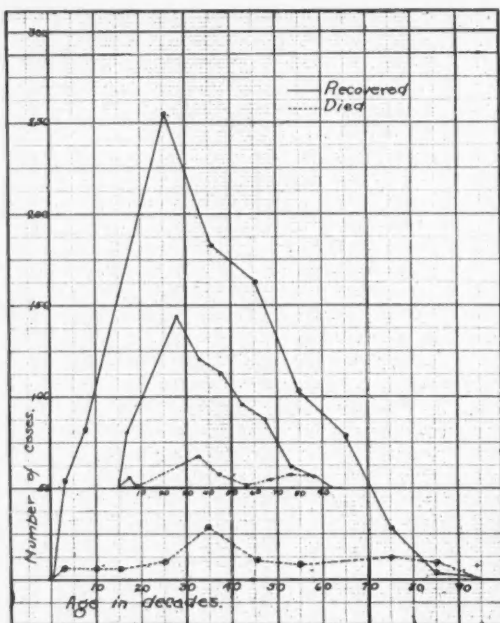


Fig. 1.—Age incidence in recovered and fatal cases. (a) Larger figure for total series. (b) Smaller figure for patients with skull fracture.

AGE

The age curves in Figure 1 show that the largest number of all patients were in their third decade of life. The graph shows a rapid rise during the early decades and a somewhat more gradual fall during later life. Coincidentally, while the greatest number of injuries falls in the third decade, the highest mortality occurs in the fourth decade. Otherwise the percentage of deaths is fairly evenly distributed among the remaining decades. The larger graph, representing the whole series (1200), is practically identical to the smaller graph, representing the smaller series of patients who sustained fractures of the skull (371). The peak of the curve in each series is found in the third decade. Likewise, the curves for the fatal cases were similar.

In Figure 2 are shown graphs representing those patients who sustained fractures of the skull. The age of the patient is compared to the type of injury. I find that, in the third decade of life, automobile accidents are the principal cause of injury. On the other hand, patients between the ages of forty and seventy years who receive fractures are more frequently injured by

automobiles while walking. During the first decade of life falls and automobiles striking pedestrians cause most of the injuries.

FRACTURES OF THE SKULL

The presence of fractures of the skull was determined by one or more of three methods, namely, physical examination, x-ray study, or by postmortem findings. They were classified according to location either as being in the vault, the base, or both. Those of the vault alone were shown by x-ray examination or by autopsy. Those of the base were diagnosed clinically by the presence of a bleeding ear or by ecchymosis of an eye, or were revealed at autopsy. Those involving both the vault and base required all methods of diagnosis. Fractures of the vault were classified according to their location in respect to the frontal, parietal, temporal or occipital areas, while in basal fractures the particular cranial fossa involved was mentioned. Fractures of the occipital bone were classified with those of the vault. This was done because no marked anatomical difference separates that part of the bone which forms the floor of the posterior fossa from that which extends into the vault. Furthermore, fractures of the occipital bone are clearly shown

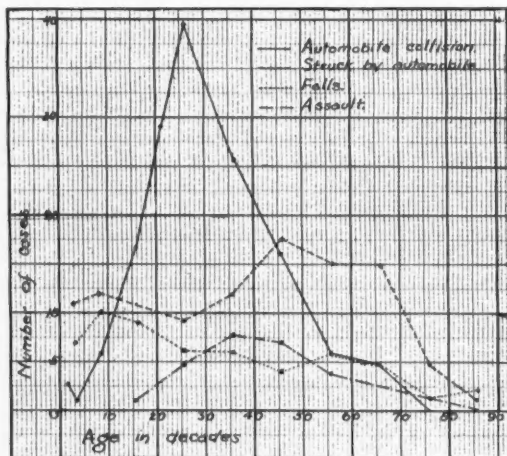


Fig. 2.—Cases of skull fracture, showing the causes of injury in each decade of life.

on the x-ray film, just as are fractures of the vault proper. On the contrary, fractures elsewhere in the base, *i. e.*, in the middle or anterior fossae, are very seldom demonstrated by the x-ray. Of the entire series, 371 patients (31 per

TABLE 3.—Etiology of all Fractures

Location of Fracture	1	2	3	4	5
	Total Number	Auto Acc.	Hit by Auto	Assault, Blow	Falls
(a) Vault	103	31%	36%	10%	12%
(b) Base	149	38%	27%	7%	13%
(c) Vault and base	119	31%	25%	6%	21%

TABLE 4.—Fractures of the Vault—In Relation to Number, Sex, Etiology, and Site of Fracture

Cases	1		2		3		4		5		6		7		8		9		10		11		12	
	Incidence		Sex		How Injured		Site of Fracture		Temp.		Occ.		Front.		Par.		Temp.		Occ.		Front.		Par.	
	No. of Fractures	Per Cent of All Cases	M	F	Auto Acc.	Hit by Auto	Assault Blow	Falls	Auto Acc.	Hit by Auto	Assault Blow	Falls	Auto Acc.	Hit by Auto	Assault Blow	Falls	Auto Acc.	Hit by Auto	Assault Blow	Falls	Auto Acc.	Hit by Auto	Assault Blow	Falls
(a) Total	222	18.5%	80%	20%	31%	30%	8%	17%	31%	30%	8%	17%	25%	25%	52%	23%	31%	31%	20%	20%	25%	25%	52%	23%
(b) Recovered	182	15%	77%	23%	30%	30%	7%	16%	30%	30%	7%	16%	28%	28%	55%	25%	30%	30%	18%	18%	28%	28%	55%	25%
(c) Fatal	40	18%	71%	29%	39%	33%	10%	20%	39%	33%	10%	20%	10%	10%	37%	10%	37%	37%	22%	22%	10%	10%	37%	37%
(d) Fracture of base and vault alone	119	54%	83%	17%	31%	26%	6%	21%	31%	26%	6%	21%	25%	25%	59%	21%	41%	41%	16%	16%	25%	25%	59%	21%
(e) Fracture of vault alone	103	46%	78%	22%	31%	35%	10%	12%	31%	35%	10%	12%	25%	25%	45%	12%	21%	21%	24%	24%	25%	25%	45%	12%

cent) were diagnosed as having a fracture of the skull. Of this number, 40, or 14.5 per cent, were fatal.

FRACTURES OF THE VAULT

Fractures of the vault alone (Table 3, line a) were more often caused by pedestrians being struck by automobiles. The majority of these fractures were diagnosed by x-ray examination, although a few which were compounded were diagnosed clinically. Fractures of this type will be found under Table 4. This group comprises 222 cases in all, of which 103 were fractures of the vault alone, and 119 were fractures involving both vault and base. The mortality of this series was 18.5 per cent, three times greater than the six per cent mortality found in patients without fractures. When the vault alone was involved by fractures, 45 per cent were parietal, and 21 per cent temporal. It was found, however, that when the impact was sufficient to fracture both vault and base, the fracture in the calvarium was extensive, and extended into more than one area in the vault, as shown in involvement in these cases of the parietal area in 59 per cent and the temporal area in 41 per cent. Fractures of the frontal bone occurred a little more frequently than those of the occipital bone.

FRACTURES OF THE BASE

It is exceedingly seldom that fractures of the base can be demonstrated by x-ray examination, consequently one depends upon external signs to establish this diagnosis. It is the consensus of opinion that one or more bleeding ears indicate a basal fracture in the middle fossa. In the absence of direct injury to the eyelids or to the rim of the orbit, ecchymosis of the lids of one eye is fairly definite evidence of fracture in the corresponding basal fossa. Furthermore, ecchymosis of the eyelids of both eyes is conclusive evidence of fracture across the floors of the anterior fossae. Vance³ had shown that the roof of the orbit and the tegmen tympani are the weakest points in the base of the skull. These areas form the so-called webbs between radiating bony ridges and are, therefore, vulnerable to injury. Fractures of the base are summarized in Table 5. They constitute 22 per cent of all cases in this series and comprise a total of 268 cases. Of these, about half (55 per cent) were of the base

TABLE 5.—Fractures of the Base—In Relation to Number, Sex, and Etiology

TABLE 5.—Fractures of the Base—In Relation to Number, Sex, and Etiology																		
Cases	1		2		3		4		5		6		7		8		9	
	Incidence		Sex		How Injured		Auto Acc.		Hit by Auto		Assault Blow		Falls		Others			
	No. of Fractures	Per Cent of All Cases	M	F														
(a) Total	268	22%	78%	22%					34%	26%	6%	16%	18%					
(b) Recovered	228	85%	78%	22%					33%	28%	7%	16%	15%					
(c) Fatal	40	15%	76%	24%					30%	25%	5%	25%	15%					
(d) Fracture of base and vault	119	45%	83%	17%					31%	26%	6%	21%	16%					
(e) Fracture of base alone	149	55%	73%	27%					37%	27%	8%	14%	14%					

TABLE 6.—Evidence of Basal Fracture

Patients	Ecchymosis of Eyes			Bleeding from Ears		
	Right	Left	Both	Right	Left	Both
(a) Recovered	30	28	63	50	49	18
(b) Fatal	6	5	9	7	5	3
(c) Total	36	33	72	57	54	21
(d) Fracture of base only ..	18	18	50	32	29	10
(e) Fracture of base and vault	18	13	22	25	25	11
(f) Total	36	33	72	57	54	21

alone and showed no x-ray evidence of fracture extending into the vault. The mortality in this group of fracture cases was 15 per cent. In almost half (45 per cent) of the fractures of the base found at autopsy, there had been no external signs to indicate the presence of the fracture.

Table 6 shows the distribution of signs of basal skull fracture. Ecchymosis of both eyes together (column 3) is more frequent than ecchymosis of either eye alone (columns 1 and 2). On the contrary, cases having one bleeding ear (columns 4 and 5) are much more common than those having bleeding from both ears, and are also more common than those having involvement of one eye. This leads one to assume that fractures of the anterior fossa are more likely to involve both fossae, while fractures of the middle fossae tend to involve but one fossa alone.

The relation between the external signs of basal fracture and an associated fracture of the vault is pointed out in Table 7. In from 34 to 47 per cent of patients suffering from bleeding ears or ecchymotic eyes the x-ray examination disclosed a fracture in the adjacent vault. It is found that unilateral ecchymosis and unilateral bleeding from the ears are more often associated with fractures of the adjacent vault, while, on the other hand, fractures involving both right and left fossae are more often confined to the base of the skull.

Comparison of clinical and postmortem findings in basal fractures was made (Table 8). The coroner found basal fractures in forty patients. In these patients only 55 per cent had shown clinical evidence of basal fracture. However, in

a group of thirty-five fatal cases in which a diagnosis of basal fracture was made on the clinical evidence alone, the fracture was found at autopsy in twenty-nine, or 85 per cent of cases. This shows that, when present, the signs of bleeding ears and ecchymotic eyes lead to a correct diagnosis in a large per cent of cases. Of all patients in the entire series who recovered, 22 per cent were considered from a clinical standpoint to have basal fractures. Judging from the discrepancy between the coroner's findings of basal fracture in 40 per cent (of whom one-half showed no evidence of basal fracture) and the clinical estimation of fracture in only 22 per cent, one would suppose that in recovered cases the actual number of patients suffering from basal fracture would be much larger than the clinical findings indicate.

There were six additional patients, four of whom had blackened eyes and two bleeding ears. In these a presumptive diagnosis of basal skull fracture was made clinically, but at autopsy none was found. It is probable that the bleeding from

TABLE 7.—Clinical Signs of Basal Fracture—In Relation to Near-by Fracture of Vault, as Shown on X-Ray

	Ecchymosis of Eyes	Total Number	With Fracture	
			Number	Per Cent
Fronto-Temporo-Parietal	Right	36	17	47%
	Left	32	11	34%
	Both	72	20	28%
	Hemorrhage from Ears	Total Number	With Fracture	
			Number	Per Cent
Temporo-Parieto-Occipital	Right	56	24	43%
	Left	54	22	41%
	Both	21	1	5%

the ears was from the tympanic membrane or external auditory canal alone, and that the blackened eyes were due to direct violence, which left no sign of injury other than the ecchymosis. This emphasizes the fact that, even with obvious signs, one must use care in examination and judgment when evaluating these findings.

Spinal fluid examinations (Table 9) were carried out in relatively few cases in this series. The incidence of increased spinal fluid pressure was found practically the same in cases with and with-

TABLE 8.—Verification of Clinical Evidence of Basal Fracture

	Ecchymosis of Eyes			Bleeding from Ears			Total
	Right	Left	Both	Right	Left	Both	
I.—Fracture correctly diagnosed							
(a) Found and located	6	3	4	4	5	2	24
(b) Found but not located	0	1	2	1	0	1	5
(c) Total	6	4	6	5	5	3	29
II.—Fracture incorrectly diagnosed							
(d) Diagnosed but not found	1	1	2	2	0	0	6
(e) Found but not diagnosed	6	2	2	7	4	2	23
(f) Total	7	3	4	9	4	2	29

TABLE 9.—Spinal Fluid in Cases Fatal and Recovered and Cases With and Without Fracture

	1	2	3	4
	Pressure		Appearance	
I.—Without Fracture	Increased	Normal	Bloody	Clear
(a) Recovered...	23	12	25	12
(b) Fatal	6	5	6	5
(c) Total	29 (63%)		31 (65%)	17
II.—With Fracture				
(d) Recovered...	23	15	30	7
(e) Fatal	15	8	20	1
(f) Total	38 (62%)		50 (85%)	8

out fracture. However, the occurrence of bloody spinal fluid was considerably higher in cases with fracture. LeCount and Apfelbach⁶ stated that bleeding into the subarachnoid or subpial space occurred in about 95 per cent of all patients with skull fracture. As would be expected, both increase of pressure and occurrence of blood in the spinal fluid is found more often in the fatal than in the nonfatal cases.

MORTALITY FIGURES

One hundred of a total of 1200 patients died, giving a mortality of 8.3 per cent. Twenty-six per cent of these were women. Slightly over half (54 per cent) of the fatal cases had fractures of the skull. The average number of days in the hospital before death was 4.1 days, as is shown in Figure 3. Two patients died of internal hydrocephalus at sixty-five and seventy-two days, respectively, after receiving their injuries. Each of these patients had an occlusion of the aqueduct of Sylvius caused by fibrous tissue. It is assumed

that in each patient the aqueduct had been filled by a blood clot which later became organized.

CAUSES OF DEATH

These are summarized in Table 10. Three-fourths of all patients who succumbed following injuries of the head died of the craniocerebral injury *per se*. Their average extent of life following injury was 3.3 days. The lesion causing death in 66 per cent of these cases was some type of intracranial hemorrhage. In addition, nine patients died of other intracranial complications, consisting of hydrocephalus, meningitis, fat embolism, and cerebral softening. The average dura-

TABLE 10.—Fatal Cases—With Causes of Death

	Number of Cases	Average No. of Days in Hospital
I. Craniocerebral Trauma		
A. Immediate	66	3.3
Hemorrhage	47	1.7
Extradural	7	3.4
Subdural*	24	4.1
Intracerebral	12	3.7
Diffuse petechial	4	
Contusion and laceration	14	3.8
Concussion	5	1.6
B. Complications	9	26.6
Cerebral softening	1	27.0
Cerebral embolism	1	11.0
Meningitis	4	8.5
Hydrocephalus	3	55.7
Total	75	Av. 6.0 days
II. Other Causes		
Ruptured viscous and hemorrhage	7	1.8
Pneumonia	6	2.5
Pulmonary embolism	3	17.0
Shock	3	3.0
Cervical cord injury	2	9.5
Senility (79 and 81 years)	2	15.0
Perforated gastric ulcer	1	8.0
Fractured extremities	1	2.0
Total	25	Av. 5.9 days

* These cases include both localized and diffuse subdural hemorrhage, and diffuse subarachnoid hemorrhage.

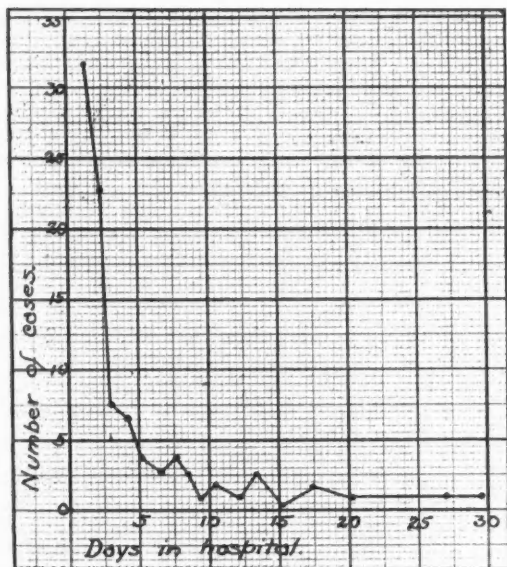


Fig. 3.—Fatal cases, showing the number of days in hospital before death.

tion of life for these patients with complications was 26.6 days. Twenty-five patients died from causes other than craniocerebral trauma. The most frequent of these were pneumonia, punctured lung, and hemorrhage from ruptured abdominal viscera, while fracture of the long bones, cervical cord injury, and shock caused the death of the remaining patients.

SUMMARY AND CONCLUSIONS

1. Twelve hundred consecutive cases of craniocerebral trauma have been studied. The results of such a study should be of considerable value in establishing the incidence and locations of skull fractures, as well as the cause, the mortality and the fatal lesions in this type of injury.

2. The automobile causes by far the greatest number of injuries (72 per cent).

3. Fractures of the skull were diagnosed in 31 per cent of the patients. Fractures of the vault were proved by x-ray in 18.5 per cent. Fractures of the base were diagnosed clinically in 22 per cent of patients. About half of the basal fractures involved both the vault and the base.

4. In the absence of signs of direct trauma, ecchymosis of the eyelids and hemorrhage from the external auditory canal are reliable signs of basal skull fracture.

5. Basal fractures are much more common than is generally supposed, probably occurring in from 30 to 40 per cent of all patients suffering cranio-cerebral trauma.

6. The mortality varies from six per cent in patients without fracture to 14.5 per cent in patients with fracture. The greatest mortality (18 per cent) is found in the group of patients having fractures involving both vault and base.

7. Intracranial hemorrhage is the most common gross lesion found at autopsy.

1100 Mission Road.

REFERENCES

1. Rand, Carl W., and Nielsen, J. M.: Fracture of the Skull—Analysis of One Hundred and Seventy-One Proved Cases—Diagnosis and Treatment of Associated Brain Injury, *Arch. Surg.*, 11:434 (Sept.), 1925.
2. Bacon, L. H., and LeCount, E. R.: Automobile Injuries—A Study from Records of Postmortem Examinations, *Arch. Surg.*, 18:769 (March), 1929.
3. Vance, B. M.: Fractures of the Skull—Complications and Causes of Death—A Review of Five Hundred and Twelve Necropsies and Sixty-One Cases Studied Clinically, *Arch. Surg.*, 14:1023 (May), 1927.
4. McCreery, J. A., and Berry, Frank B.: A Study of Five Hundred and Twenty Cases of Fractures of the Skull, *Ann. Surg.*, 88:890 (Nov.), 1928.
5. Stewart, J. W.: Fractures of the Skull, *J. A. M. A.*, 77:2030 (Dec. 24), 1921.
6. LeCount, E. R., and Apfelbach, C. W.: Pathologic Anatomy of Traumatic Fractures of Cranial Bones and Concomitant Brain Injuries, *J. A. M. A.*, 74:501 (Feb. 21), 1920.

DISCUSSION

HOWARD W. FLEMING, M. D. (384 Post Street, San Francisco).—Doctor Werden's painstaking study of such an extensive number of consecutive head injuries is a valuable contribution. It is rather alarming to note the rapid increase in the number of injuries caused by automobiles. The figures given suggest that serious head injuries are five times as common now as they were six years ago. Previously, extensive experience with this type of injury was limited to those specializing in neurosurgery or to surgeons doing a great deal of industrial work. Such an alarming increase in the number of automobile accidents emphasizes the necessity for better preparedness to care for serious head injuries on the part of the medical profession as a whole. In a considerable number of cases the decision as to therapy is difficult. No doubt many ill-advised operations are done and probably, more frequently, symptoms and signs suggesting the necessity for surgical treatment are not recognized. There are a few well-recognized principles which should be given wide publicity in the medical literature. Every physician should be prepared to treat shock in an approved manner and to interpret observations that suggest serious intracranial complication.

I was much impressed by the low mortality rate and especially by the low incidence of meningitis in this series of cases reviewed by Doctor Werden. The figures given must be interpreted as the results to be expected in a series of head-injury cases cared for under the most advantageous circumstances. Only a small percentage of such patients are treated by a trained and experienced personnel, working in hospitals which have all the necessary equipment.

It would be most interesting and instructive if Doctor Werden would supplement this report with an

article detailing the methods of examination and treatment used by the neurosurgical service of the Los Angeles County General Hospital.

✱

CYRIL B. COURVILLE, M. D. (1100 North Mission Road, Los Angeles).—A statistical study, such as here presented, furnishes material of great interest and value on the subject of brain injury. Such investigations as a whole, however, are often difficult to properly evaluate owing to the wide variation in limiting circumstances characteristic of the local situation. This study presents as near as possible a true insight into existing conditions as can be obtained from hospital records, particularly since the data comes from as large an institution as the Los Angeles County General Hospital. Doctor Werden has brought out the essential facts to be gained from such a study and these need not be elaborated upon further. All that can be added by way of discussion, perhaps, is a clarification of some of the existing circumstances, so that the figures presented may be of greater value to those statistically minded.

In Los Angeles, individuals sustaining head injuries from whatever cause (excepting industrial accident cases) are as a rule first taken to one of the receiving hospitals of the city, or one of the county health centers. If the patient survives for more than a few hours, he is transferred to a private hospital or to the Los Angeles County General Hospital, depending on his financial circumstances. The cases which Doctor Werden includes in his series represent, therefore, the individuals of this group who have been brought to the Los Angeles County General Hospital.

Of a series of eighty fatal cases coming to the coroner's autopsy, which have been made a subject of special pathological study, 8, or 10 per cent, were killed outright; 19, or 23.75 per cent, died within three hours; 18, or 22.5 per cent, died between three and twenty-four hours; 25, or 31.25 per cent, survived one to seven days; and 10, or 12.5 per cent, died after the first week following injury. As near as can be estimated from my figures, individuals constituting the first two groups (about one-third of all fatal cases), do not survive long enough to be admitted to this or private hospitals. Most of the others, constituting about two-thirds of the whole, had been transferred elsewhere. The survival periods of this group of fatal cases correspond closely to those given by Doctor Werden (Fig. 3) and, therefore, form a fairly accurate basis for computation. If this is true, Doctor Werden's figure for total hospital mortality (8½ per cent) represents perhaps two-thirds of the true mortality of all head injuries, making it about 12 per cent for Los Angeles County. The patients who succumb within a few hours would necessarily fall in the group of more severe head injuries with extensive basal fractures, laceration of the brain, and diffuse subarachnoid hemorrhage.

In order to get a true estimate of the existing circumstances in the given community, it would be necessary to make a rather extensive study of data secured from several sources, including the number of accidents as obtained from the police records, the number and fate of patients admitted to the emergency hospitals, a study of the coroner's statistics as well as information obtained from large, well-organized hospitals, such as has been presented here. Doctor Werden's figures are perhaps more significant to some of us who appreciate that most of these patients have been examined by him personally and remained under his observation during their stay in the hospital.

✱

DOCTOR WERDEN (Closing).—I am indebted to Doctor Courville for his remarks which make more clear the fact that the figures in this paper are based solely upon the patients studied within the hospital. For statistics on head injuries throughout Los Angeles County, his comments are timely.

Doctor Fleming's discussion prompts me to add the following: The subject of craniocerebral trauma is itself so extensive that a lengthy monograph would be required to properly deal with all of its phases. In order to consider but a single aspect of the subject, I have limited myself in this paper to a more or less statistical study. We have had between five and six thousand cases of head injuries on the neurosurgical service of this hospital during the past twelve years. A system of treatment has been developed which we feel meets the conditions presented. It is hoped that this plan of therapy has been instrumental in lowering the mortality rate and the incidence of complications. The details of treatment as well as the pathology of head injury, the *modus operandi* of symptom production, the indications for operative intervention will probably be made the subjects of further reports from this service.

SIGMOID SINUS THROMBOSIS*

REPORT OF CASE

By ROBERT LEVY, M. D.

AND

HERMAN I. LAFF, M. D.

Denver, Colorado

A UNIQUE case of sepsis of otitic origin, occurring in our practice a short time ago, furnishes the basis for the following discussion under the general heading of sinus thrombosis. This is not to be an extensive dissertation on sinus thrombosis, but a consideration of some of the problems which presented themselves to us. It is hoped their discussion will prove instructive to the otolaryngologist as well as to the general practitioner.

REPORT OF CASE

History.—M. P., male, farmer, age eighteen, came into the office on July 21, 1931, complaining of right earache, general malaise, and fever. Aside from the usual childhood diseases and a tonsillectomy eight years ago, he had always been in good health, except that nine years previously his right ear commenced to discharge. This discharge later began to have a foul odor and continued intermittently until about four months ago, when it stopped completely. About two months later the ear began to pain him. The pain was deep-seated, as if it were located inside the head. This was soon followed by a recurrence of the discharge and relief of the pain. The ear then again stopped discharging, but caused him no particular pain until last night, when it became very severe.

Examination.—Examination revealed a thickening of the right tympanic membrane with a small perforation superiorly and anteriorly. There was a scanty, thin, watery secretion overlying the drum membrane. Patient's temperature was 103 degrees Fahrenheit, and his mental condition appeared sluggish. A diagnosis of an acute exacerbation of a chronic otitis media was made and the patient sent home for observation.

Course.—On the next morning we were called to see him because of increasing pain in the ear, vertigo, nausea, and vomiting. The temperature during the night had increased to 104 degrees Fahrenheit. Examination of the membrana tympani revealed no change. There was a first-degree nystagmus to the right. Hearing for the whispered voice was found to be ten inches for the S's and two feet for the 9's. The temperature was 99.4 degrees Fahrenheit.

The same morning (July 22) the patient was transferred to Saint Joseph's Hospital. On entrance he was nauseated, drowsy, and complained of slight headache. He vomited several times during the day, espe-

cially on exertion. That evening his temperature went up to 104 degrees Fahrenheit, and the next morning was down to normal. The nystagmus continued, there was a questionable Kernig and a questionable rigidity of the neck. Pressure along the anterior border of the right sternocleidomastoid muscle revealed tenderness. No tache cerebrale. No local mastoid signs.

At nine o'clock the next morning, patient had a severe chill which lasted fifteen minutes.

Because of evidence of meningeal irritation, a neurologist (Doctor Delehanty) was called in consultation that evening (July 23). Spinal fluid examination showed: Pressure not increased; colorless, clear; cell count 3; globulin negative; sugar 77.1 milligrams per 100 cubic centimeters; no organisms; Wassermann negative. Because of the above and negative neurological findings, he reported absence of meningitis.

To rule out some other condition that might be responsible for the septic manifestations, Dr. J. N. Hall, an internist, was asked to examine the patient. He reported the heart and lungs, appendix, gall-bladder, veins of extremities, all negative. The urine showed nothing serious enough to cause patient's symptoms. He thought the trouble was all related to the ear, or, as he expressed it, "above the neck."

The pain in the ear and the other symptoms continued. There was another chill the next morning (July 24), followed by a rise of temperature to 102 degrees Fahrenheit, which later declined to 97 degrees Fahrenheit.

Laboratory Examinations.—Laboratory examinations on date of admission (July 22) showed: Urinalysis negative except for a positive albumin and occasional epithelial, pus, and blood cell.

Blood examination: hemoglobin, 80 per cent; red cells, 4,520,000; white cells, 10,400; polynuclears, 88 per cent; lymphocytes, 9 per cent; large mononuclears, 3 per cent. Schilling count: Immature cells, 47; Schilling index, 0.9.

X-ray of mastoids (July 23, by Doctor Crosby): "There is some pathology in the left mastoid, although all of the cell structure is apparently intact. The right mastoid shows a broken outline of the anterior wall of the lateral sinus which apparently is due to necrosis. At this point there is increased density of the shadow of the lateral sinus which may indicate a thrombosis."

With the above clinical picture and laboratory reports a preoperative diagnosis of right sigmoid sinus thrombosis was made, and the patient was operated at noon on July 24.

Findings on Operation.—The mastoid was sclerotic and dense, and devoid of cellular structure except for slight pneumatization of the tip. There was much bony vascular engorgement and the bleeding was very profuse and difficult to control. The mastoid process was widely exenterated, with free exposure over entire mastoid area and large exposure of dura. No lateral sinus was found. The dura was incised in two places at supposed location of sinus, but no free bleeding occurred nor was any clot found, forcing us to presume the absence of a right sigmoid sinus.

Postoperatively the patient continued to run a septic temperature, reaching as high as 103.8 degrees Fahrenheit, then dropping to normal or below normal for a period of four days, and preceded by one or two chills daily. On July 28, fifth day postoperative, the temperature only went up to 100 degrees Fahrenheit. The next day (July 29) the temperature again rose to 104 degrees Fahrenheit, then dropped to normal; varied between 101 and 103 degrees Fahrenheit on the 30th; remained around 100 degrees Fahrenheit on the 31st, and thereafter continued normal, when the patient entered upon his convalescence and has remained well since then.

Culture from the mastoid taken at operation was reported, "contaminated with air organisms." Culture from material obtained from the right middle ear, after incision of right membrana tympani at time of operation, was reported negative. Blood culture taken postoperatively revealed no growth.

* Read before the Eye, Ear, Nose, and Throat Section of the Utah State Medical Association, September 9-11, 1931.



Fig. 1.—X-ray of mastoids taken prior to operation. On the right side the lateral sinus appears to end abruptly, just after it becomes the sigmoid sinus. On the left side the anterior wall of the sigmoid sinus is shown almost in its entirety.

Further blood examinations following operation showed:

July 28. Polynuclears, 78 per cent; small lymphocytes, 20 per cent; large mononuclears, 2 per cent. Schilling count: Immature cells, 36 per cent; Schilling index, 1.1.

July 30. Polynuclears, 84 per cent; small lymphocytes, 15 per cent; large mononuclears, 1 per cent. Schilling count: Immature cells, 33 per cent; Schilling index, 1.2.

August 3. Hemoglobin 66 per cent; red cells, 4,000,000; leukocytes, 8,000; polynuclears, 61 per cent; small lymphocytes, 37 per cent; large mononuclears, 2 per cent. Schilling count: Immature cells, 21; Schilling index, 1.9.

During the course of the illness the pulse rate ranged: before operation, from 100 to 52; and after operation, from 120 to 40. Respiration, before operation, from 20 to 24; after operation, from 38 to 20.

COMMENT

Keeping in mind the salient features of the above case, we feel that a preoperative diagnosis of sinus thrombosis was fully justified from the clinical course. The occurrence of chills and high temperature, followed by sweating and drop, is considered to be the expression of the organism to the periodic flooding of the circulation with bacteria or their products. Occurring in the course of an acute, or in an exacerbation of a chronic otitis media, and with no other apparent cause to account for it, we know of no other diagnostic problem in our field which has more frequently borne out our preoperative assumptions than the diagnosis of sinus thrombosis.

However, following consultations with a neurologist and internist, who found nothing else to account for the symptoms, when we opened the mastoid we not only did not find a thrombosis, but were deeply chagrined when we even failed to locate a sigmoid sinus.

In spite of this unusual experience, we feel justified in maintaining that we were dealing with a sepsis of otogenic origin.

Kopetzky¹ has emphasized that otogenic sepsis may not only be due to a frank thrombosis of the sigmoid sinus, but frequently occurs as a result of an osteothrombotic phlebitis of the small veins coursing in the bony structure of the mastoid

process. This latter condition is associated with the so-called hemorrhagic type of mastoiditis, which is frequently dramatic in its onset and disastrous in its ensuing complications. The *Streptococcus hemolyticus* is the offending organism. Early eradication of the septic focus in the form of a mastoidectomy will frequently result in cure of the sepsis.

We have reason to believe that such may have been the situation in our case. The tremendous vascular engorgement of the entire osseous structure which we found at operation, is a characteristic finding in an osteothrombotic mastoiditis.

APPARENT ABSENCE OF SIGMOID SINUS

The apparent absence of a sigmoid sinus, we feel, tends to corroborate this conclusion. Otologists of mature experience may never encounter such an anomaly, judging from the scant reports in the literature, yet it has been known to occur. One of us had the good fortune of dissecting a skull in which the right sigmoid sinus was entirely absent from the knee to the bulb. This specimen was presented before the Vienna Otological Society in April 1929, and reported in the American literature² in February 1930, together with a résumé of the embryologic development of the venous sinuses inside the skull. The occurrence of this interesting and rare anomaly was explained on an embryologic basis.

In September 1930, Williams³ of the Mayo Clinic, referred to this article and reported a similar case encountered at operation.

Other anomalies of this vessel include: marked narrowing of the sinus, double sigmoid sinus, and partial absence. Graphic illustrations will better serve to demonstrate these anomalies. This will be attempted later in a lantern-slide demonstration.

DIAGNOSIS OF SINUS THROMBOSIS

We wish to emphasize the importance of an early diagnosis in cases of sinus thrombosis and review the various means at our command in so doing. At the same time we would urge the attending physician to refrain from adopting a panicky attitude and the institution of operative procedures until the diagnosis is established. A few days' delay does not necessarily entail disastrous consequences. Metastases as a rule do not occur early in the course of the disease.⁴ We have seen cases that have existed for weeks with extreme emaciation and anemia get well under proper operative management. We have also seen cases of unmistakable pyemia of otitic origin get well without operation.

This, however, should not mislead us into a false sense of security. In addition to the well-recognized clinical picture as manifested by chills, rise in temperature with subsequent drop to near normal or below normal, sweats and the demonstration of bacteria in the blood stream, occurring in the course of an acute or an exacerbation of a chronic otitis media, there are certain refinements in diagnosis which are said to be of help.

The blood picture very often shows a marked anemia, the hemoglobin dropping to as low as

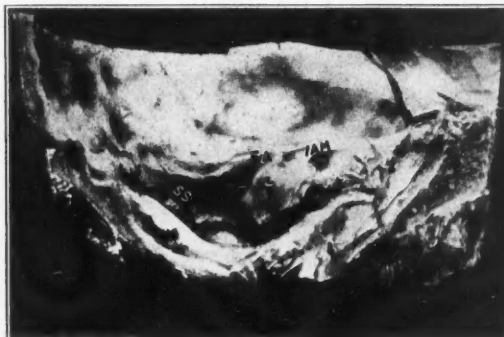


Fig. 2



Fig. 3

Fig. 2.—Left temporal bone of dissecting-room specimen referred to in text, showing large sulcus for sigmoid sinus. EA indicates the eminentia arcuata; IAM, the internal auditory meatus; and SS, the sulcus for the sigmoid sinus.

Fig. 3.—Right temporal bone of dissecting room-specimen referred to in text, showing complete absence of sulci for the sigmoid and superior petrosal sinuses. Note the infantile character of the petrous pyramid with a prominent arcuate eminence, a subarcuate fossa, and a convexity for the sagittal semicircular canal as well as the superficial opening for the vestibular aqueduct. AV indicates the aqueductus vestibuli; EA, the eminentia arcuata; IAM, the internal auditory meatus; MF, the mastoid foramen; SC, the sagittal semicircular canal; SF, the subarcuate fossa. The portion from X to X shows the complete absence of a sulcus for the sigmoid sinus.

35 to 40 per cent. This, of course, is due to the destructive action of the bacteria on the red blood cells.

The leukocytosis usually reaches 18-20,000, with a corresponding increase in the polymorphonuclear leukocytes. Since the advent of the Schilling count, some otologic observers have been stressing its value in the diagnosis and prognosis of the complications resulting from otitis media and mastoiditis. In cases of sinus thrombosis the immature or staff cells are greatly increased, with a corresponding fall in the Schilling index. As in other overwhelming infections, the bone marrow attempts to respond with an increased supply of white cells, but the urgency of the body's demand is so great that it is forced to throw into the circulation leukocytes which are still immature. The large percentage of immature cells in our patient helped to convince us that we were dealing with a virulent infection.

Although a bacteremia is probably present at some time during the course of an otogenic sepsis, it is not always easy to demonstrate. The blood culture is more likely to be positive if taken during a chill or immediately after it. Because of the well-known ability of the blood to destroy bacteria, it has been felt that blood withdrawn from a peripheral part of the circulation, as from one of the arm veins, is less likely to show a positive culture than if withdrawn from a site closer to the septic focus. Ottenberg⁵ has therefore recommended the withdrawal of blood from the internal jugular vein.

Where there is a double otitis media and it is important to determine the side which harbors the thrombus, Ottenberg has also recommended the simultaneous withdrawal of blood from each internal jugular vein. After culture, the side presenting the greater number of colonies should indicate the site of the thrombosis. This, however, has been shown to be only theoretically true. In cases of mural thrombus, where there is no great hindrance to the circulation, this will hold true. Where an obturating thrombus is present

the venous flow is reversed and finds its way through the torcular and petrosal sinuses to the opposite jugular. The latter, therefore, carries away more bacteria-laden blood than the jugular on the affected side.

Where large series of cases have been reported, the percentage of positive blood cultures has varied between wide limits. Errors in technique, the nature of the clot, the time element and other factors have been invoked to explain these inconsistencies, so that we are forced to the conclusion that a negative blood culture by no means rules out a sinus thrombosis.

Queckenstedt's original observation that compression of both internal jugular veins in the neck produced an increase in the spinal fluid pressure, has served as the basis for a test to determine the presence or absence of a thrombus in the sigmoid sinus. If compression is made on the side where a thrombus is suspected, and no rise in the spinal fluid pressure is noted, this finding is confirmatory of the presence of a thrombus. In cases of bilateral otitis media, this experiment may be invoked when it becomes necessary to determine the side on which the thrombus exists. The test in this country is known as the Tobey-Ayer⁶ test.

The value of this test, however, has not come up to expectations because it presents fallacies in its performance and interpretations of results. In children its usefulness is lessened by lack of cooperation. Coughing, crying, holding of the breath, moving of head and body, will cause an increase of pressure. Inequality or difficulty in compressing the veins will nullify the results.

The increase in the cerebrospinal fluid produced by circulatory changes in the brain and its membranes accounts for the retinal and optic nerve changes seen in some cases of thrombosis. Examination of the eyegrounds thus may prove of value. In some series these changes have only been noted in 10 per cent of the cases. Dilatation of the retinal veins, blurring of the disk margins and papilledema are the phenomena to be looked for. Here again an engorgement of the fundus

or a papilledema on one side is said to be significant in determining the site of the lesion. The fundi may also be observed during compression of the internal jugular veins. According to O. Beck and Crowe, under normal conditions the retinal veins will only appear congested on bilateral compression. Where there is an obliterating thrombus on one side, compression of the opposite side will produce the similar congestion.

Among the local signs, we may mention: Griesinger's sign, showing edema and tenderness at the point of exit of the emissary vein; diminution in intensity or absence of the bruit heard by compressing the jugular; and the presence of a tender swelling along the course of the internal jugular in the neck. With the latter there may be pain on turning the head and pain on swallowing.

If the thrombus has extended down to the bulb and an abscess has been produced in its locality, signs of inflammation of the ninth, tenth, and eleventh nerves may manifest themselves. Thus we may have paralysis of the muscles of deglutition, pain on swallowing, paralysis of the soft palate; slow pulse, hoarseness, aphonia and dyspnea; and spasms of the sternomastoid and trapezius muscles.

A frank evaluation of the above mentioned signs and tests discloses that too much dependence on their aid will prove disappointing. Their absence can hardly be regarded as ruling out sinus thrombosis and their presence is only weakly confirmatory.

If we were confined to one clinical sign we would place our greatest reliance on the temperature curve, first, however, eliminating such septic diseases as: erysipelas, infectious pharyngeal and nasopharyngeal processes, influenza, pneumonia, endocarditis, typhoid, malaria, tuberculosis, puerperal sepsis, rheumatism, cervical adenitis, pyelitis, etc. Indeed, as Haymann⁷ states, it is the first and often only sign of this disease. High fever, even with remissions, occurring in the first days of an acute otitis media, especially in children, should not mislead us. Occurring, however, later in the course, especially following an afebrile interval, it becomes very significant of intracranial mischief. Of the intracranial complications, meningitis is the one that most frequently must be differentiated from sinus thrombosis.

We have been struck with the constancy of the occurrence of a feeling of euphoria in the course of this disease. In spite of the clinical evidence of overwhelming toxemia, patients frequently belittle the gravity of their condition and feel mentally stimulated. In fact it has been said: "This condition is so characteristic that when there is a very high temperature with middle-ear suppuration, and the patient feels very well, one should strongly suspect the presence of sinus thrombosis."⁸

Reverting to the case report we have presented, we have assumed that we were dealing with a unilateral absence of the sigmoid sinus. We know of no means by which this anomaly may be diagnosed before operation. As will be shown this variation may be explained on the basis of an

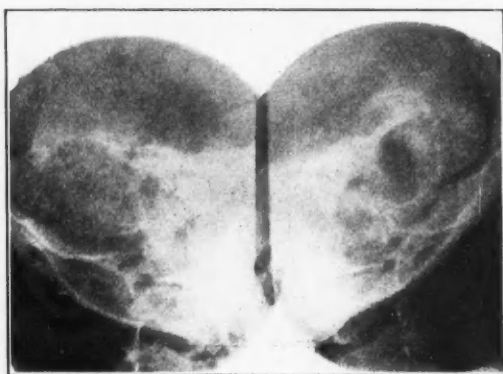


Fig. 4.—X-ray of mastoids taken after right mastoidectomy. (Sigmoid sinus not found.) Note the rather large circular area in the operated region, just below the sulcus for the lateral sinus. This may represent a large mastoid emissary. Compare the x-ray of the right mastoid in this figure with the specimen shown in Figure 3 and note the suggestive similarity in the two.

embryologic maldevelopment of the intracranial venous channels. Although in the specimen we examined in the dissecting room the temporal bone showed evidence of infantile conformation, we doubt if the x-ray could be put to practical use in disclosing such occasional abnormality.

The x-ray has its limitations even in the ordinary run of cases. Haymann states: "Attempts to delineate the course of the sinus before operation by means of topographical measurements or the roentgen ray are useless and unnecessary. The former is almost of no account because of the normal variations in its course and the latter is equally nonproductive of accurate results."⁹

In this connection our only practical advice is that the otologist keep in mind the possibility of this abnormality. How frequently otologists have failed to find a sigmoid sinus we have no way of knowing, as we have seen only one allusion to such experience in the literature. When the possibility of this occurrence is more generally recognized, doubtless more such cases will be reported.

Another practical consideration in this connection is to be found in the case in which there is marked narrowing or absence of the sigmoid sinus and internal jugular vein on one side, and ligation of the opposite internal jugular vein is undertaken. This may produce marked circulatory disturbances in the brain or even death. Braun¹⁰ quotes Rohrbach, Linser, Kummer, and Stolz as each having reported one such case. Rohrbach reported a case where the left internal jugular was ligated during an operation for carcinoma on the left side of the neck. Following the operation the patient became comatose and died six days later. The case came to autopsy and showed a right sigmoid, which admitted only a small probe. The patient had died from the effects of interference with the cerebral circulation.

The possibility of such occurrences has been offered as an objection to jugular ligation in the surgical management of sinus thrombosis. That this objection is only theoretical is shown by the reports of several cases in which it was necessary

to ligate both jugular veins and the patients recovered. The circulation under these circumstances can be carried on by the collaterals. Hastings¹¹ recently reported such a double ligation, the two being done seventeen days apart. The experience of one of us several years ago may also be of some interest in this connection. While doing a mastoid operation on one side, the sigmoid sinus was accidentally opened. One month later, the other mastoid required operation and the same accident occurred on this side. The patient suffered no ill effects.

In the past year, two authors have stressed the rôle played by thrombosis of the mastoid emissary vein in explaining cases of aural sepsis in the absence of demonstrable thrombosis of the sigmoid sinus. Hybask¹² has shown how this vein may become the seat of a primary thrombus in much the same way as it occurs in the lateral sinus, *i. e.*, by direct contact with a spreading infection or by a thrombophlebitic process originating in the smaller venules. Reversal¹³ encountered a case, the patient having died of septicemia and metastatic pneumonia, in which the mastoid emissary contained a clot while the sinus itself was patent.

TREATMENT PROCEDURES

As regards the management of these cases we have nothing new to offer. We wish to emphasize, however, that of all the intracranial complications secondary to mastoid disease, sinus thrombosis holds forth, by far, the greatest chances for recovery following surgical intervention. As intimated above, we believe that some cases of otogenic sepsis predicated on the basis of an osteothrombotic phlebitis may get well under supportive treatment and blood transfusion. The frank case of sigmoid sinus thrombosis, however, without surgery, is nearly always doomed. For practical purposes we may disregard the occasional spontaneous cure which is noted in the literature.

The present is neither the time nor the place to undertake a discussion of the problems which present themselves in the operative management of this disease. Kopetzky's¹⁴ attempt to divide cases of otogenic sepsis into two categories, and his enunciation of the general principles to guide us in the management of each group appeal to us as worthy of reemphasis and repetition.

In the first group of systemic infection, which accompanies the hemorrhagic type of mastoid disease, which frequently occurs simultaneously with the onset of the otitis media, and which may show no x-ray evidence of bone destruction or the usual clinical signs of surgical mastoiditis, the simple mastoid operation frequently is sufficient to remove the thrombosed venules in the mucosa and bony intercellular spaces, thus curing the sepsis. Laying bare the sinus wall may suffice for the present and further interference may well be omitted unless the thrombophlebitic process has already extended into its interior. Supplementing this treatment with blood transfusions, if necessary, will cure many of these cases.

In the second group the sigmoid sinus becomes the seat of a thrombus by contiguity, as a result

of the extension of the inflammation and bony necrosis from the mastoid process.

First, the sinus wall becomes bathed in the products of inflammation and a perisinus abscess is formed. The sinus protects itself from the encroachment of this inflammatory process by throwing out granulations. Under favorable conditions and the eradication of the septic focus by timely surgical intervention on the mastoid, the disease stops at this point. Otherwise this is followed by a phlebitis of the sinus wall, perhaps with necrosis, permitting bacteria to enter and attack its endothelial lining. At this time all the factors favoring the formation of a septic thrombus exist. When clinical symptoms of sinus thrombosis have been present in a case which shows these findings at operation, no time should be lost in exploring the interior of the sinus, removing the clot and, if deemed necessary, ligating the internal jugular vein.

In addition to the above, may we add that high fever and some evidence of sepsis accompanying an otitis media is not necessarily a signal for immediate operation on the sinus. Delaying intervention for a day or two, until the diagnosis is more firmly established, is frequently rewarded by finding an improved patient. On the other hand, in no endeavor of our specialty have we experienced a greater personal satisfaction or feeling of genuine accomplishment than in those cases of sinus thrombosis which have recovered under surgical management, which otherwise would have ended fatally.

CONCLUSIONS

1. A case has been presented showing the classical signs of sigmoid sinus thrombosis in which, at operation, no sigmoid sinus could be found.

2. Following the eradication of an hemorrhagically inflamed mastoid the patient recovered, without further intervention, supporting the view that the sepsis was due to an osteothrombotic phlebitis of the small veins.

3. A specimen found in the dissecting room showing a unilateral absence of the sigmoid sinus has been presented in support of our contention that such cases may be encountered at operation.

4. The type of sigmoid sinus anomalies should be kept in mind while operating cases of sinus thrombosis.

5. The diagnosis of sinus thrombosis is to be made from the history and clinical symptoms rather than by a too rigid dependence on the results of special tests which have been devised. These tests are of greater value in determining the side for operation in cases of bilateral otitis media.

6. Blood cultures and blood studies, and especially the Schilling count, are of diagnostic and prognostic aid and should be utilized.

7. Although a panicky attitude at the first rise of temperature in the course of a suppurative otitis media is to be deplored, surgical intervention in properly diagnosed cases of sinus thrombosis is productive of brilliant results.

Metropolitan Building.

REFERENCES

1. Kopetzky, S. J.: *Otologic Surgery*, Paul B. Hoeber, Inc., New York, 1925, p. 270.
2. Laff, H. I.: Unilateral Absence of Sigmoid Sinus, *Arch. Otolaryng.*, 11:151 (Feb.), 1930.
3. Williams, H. L.: Apparent Unilateral Absence of the Sigmoid Sinus Noted at Operation, *Arch. Otolaryng.*, 12:339 (Sept.), 1930.
4. Braun, A.: Sinus Thrombophlebitis, Paul B. Hoeber, Inc., New York, 1928, p. 141.
5. Ottenberg, R.: Differential Blood Cultures, *J. A. M. A.*, 94:1896 (June 14), 1930.
6. Tobey, G. L., and Ayer, J. B.: Dynamic Studies of the Cerebrospinal Fluid in the Differential Diagnosis of Lateral Sinus Thrombosis, *Arch. Otolaryng.*, 2:50 (July), 1925.
7. Haymann, L.: Die Otogene Sinusthrombose und die Otogene Allgemeininfektion, in *Denker-Kahler, Handbuch der Hals, Nasen, Ohrenheilkunde*, Julius Springer, Berlin, 8:142, 1927.
8. Braun, A.: Local citation, p. 152.
9. Haymann, L.: Local citation, p. 158.
10. Braun, A.: Local citation, p. 209.
11. Hastings, H.: Bilateral Jugular Resection for Bilateral Sigmoid Sinus Thrombosis (Otitic), *Arch. Otolaryng.*, 4:58 (July), 1926.
12. Hybasek, J.: Primary Thrombosis of the Mastoid Emissary Vein, *Otolaryngologia Slavica*, Vol. 2, Fasc. 3 (Aug.), 1930. Abstracted in *Jour. Laryng. and Otol.*, 46:202 (March), 1931.
13. Reversal, Prof.: The Role of the Mastoid Emissary Vein in the Production of Nonobstructing Sinus Thrombosis, *O. R. L. Internationale*, Vol. 14, No. 7. Abstracted in *Jour. Laryng. and Otol.*, 46:202 (March) 1931.
14. Kopetzky, S. J.: Systemic Infection Complicating Purulent Middle Ear Disease, *Transactions A. M. A., Section Laryngol. Otol. and Rhinol.*, 1924, p. 48.

WEIGHT REDUCING DIETS

THOMAS H. MCGAVACK, M. D.
San Francisco

DISCUSSION by Roland Cummings, M. D., Los Angeles; W. D. Sansum, M. D., Santa Barbara; H. Lissner, M. D., and H. Clare Shephardson, M. D., San Francisco.

IN the haze of methods commonly employed by the public for effecting a decrease in weight, the fundamental relationship existing between basal metabolism and nourishment intake has either often been overlooked or relegated to a very secondary place. The fact remains, as Jones¹ puts it, "Every form of obesity represents, in the last analysis, an increase of caloric intake over caloric output."

Proper exercise, helpful massage, glandular preparations, electric appliances—all undoubtedly occupy necessary places in the control of obese conditions. The caloric intake and its distribution continue to be, nevertheless, matters of extreme importance, not infrequently neglected by patient and physician alike. With this in mind, the writer suggests two diets which have been found both satisfactory to the patient and helpful to the clinician in instituting a successful regimen.

CHART I—DIET I

Morning—One cup (250 c. c.) coffee or tea with one tablespoon (15 c. c.) milk; one small

slice (50 grams) or one and two-thirds ounces brown bread or one-half slice (30 grams) of white bread.

Forenoon—One small orange or one small apple or similar portion of other fresh fruit.

Noon—Two slices (250 grams or 8 ounces) roast meat; two portions (200 grams or 6 ounces) green vegetables boiled in salt; a little fruit; water.

Afternoon—One-half cup (125 c. c.) coffee with one tablespoon (15 c. c.) milk.

Evening—One slice (100 grams or 2½ x 3 x 1 inches) meat or a little chicken or fish; one portion (100 grams or 30 ounces) green vegetables; one-half slice of brown bread (25 grams or two-thirds ounce); one cup of tea, if desired.

Diet 1 (see Chart 1) is a modification of Umber's "Skeleton Diet." This yields approximately 900 calories, of which 365 calories is derived from carbohydrates, 360 calories from protein, and 175 calories from fat. The total caloric value is so low that any obese individual who follows it conscientiously will lose from two to five pounds within the first five days of treatment. Our first consideration in this diet has been the administration of an adequate, but not a superfluous amount of protein. The average American demands fifteen to sixteen grams of nitrogen for his daily needs, or, for example, between ninety and one hundred grams of protein food. We here have about ninety grams. Hunger is avoided by the "filling substances" present in the dietary and by the frequency with which food is taken. I have never had an individual who faithfully followed this chart complain of hunger. The five feeding periods should be strictly insisted upon, as frequent intake of even a small amount of nourishment relieves the "all-gone" sensation of which such people frequently complain, and simultaneously decreases the common tendency to overeat at the next regular meal. If coffee is not desired or advisable in the mid-afternoon, the tablespoonful of milk should, therefore, be taken just the same.

The usefulness of this diet apparently depends upon:

1. The low caloric value.
2. The adequate protein ration.
3. The specific dynamic effect of protein food.
4. The invariable loss of weight accompanying its use.

The diet is contraindicated in liver or gall-bladder disease, in heart conditions (for any length of time), and in advanced arterial degenerative lesions.

After prescribing such a diet the physician should see the patient sufficiently often to make necessary changes in it. One or all of the following findings may warrant an alteration in the original regimen:

1. Excessive weight loss.
2. A rise in pulse rate above ten per minute.

3. A drop in blood pressure of more than ten millimeters of mercury.

4. The presence of acetone bodies in the urine.

5. The presence of distressing symptoms, such as dyspnea, sense of oppression through chest, palpitation, etc.

Inasmuch as the protein of the diet is already properly adjusted, and inasmuch as fat deficiency is to be made up from the body's own stores, any change to be made in the diet calls for carbohydrate foods. So, should one or more of the above contingencies arise, the patient is given a list, such as that shown in Chart 2, with instructions to add one of the one hundred calorie items, or more, therefrom to his daily ration.

CHART 2.—LIST OF ONE HUNDRED CALORIE FOODSTUFFS

(Each portion here listed is the equivalent of one hundred calories.)

- 80 grams or 2½ ounces roast beef; 200 grams or 6 ounces oysters.
- 40 grams or 1⅓ ounces white bread, graham bread or rye bread.
- 20 grams or two-thirds ounce zwieback.
- 12½ grams or one-half ounce butter.
- 20 grams or two-thirds ounce swiss cheese.
- 25 grams or 1 ounce sugar.
- 100 grams or 3 ounces potatoes.
- 30 grams or 1 ounce rice, peas, beans, or buckwheat.
- 20 grams or two-thirds ounce flour.
- 200 grams or 6 ounces apples.
- 150 grams or 5 ounces apple sauce.
- 150 cubic centimeters or 5 ounces milk.
- 30 cubic centimeters or 1 ounce brandy or whisky.

It is sometimes wise to stress the avoidance of certain fat foods. Patients will in all innocence eat various forms of cheese, olives, fat fish, duck, goose, etc., thinking they are carrying out instructions to the letter. The appended list is a useful reminder. (See Chart 3.)

CHART 3.—LIST OF FAT FOODS

Cream, butter, most forms of cheese, oils, olives, chocolate, cocoa, nuts, potato chips, crullers, and doughnuts. Articles cooked in fats, yolk of egg, bacon and meat fats, fat fish and game.

The fattest meats are pork (including ham and sausage), salt pork, bacon, mutton chops, duck, goose, pate de fois gras, marrow and corned beef.

The fattest fish are butterfish, catfish, eels, salmon, shad, trout, turbot, and fish canned in oil.

The second diet to be mentioned (see Chart 4) obviates the necessity for careful weighing or measuring, makes no "between meal" demands, and is more readily obtainable by the business man or woman. I find it especially valuable where gall-

bladder and liver conditions are met, in conjunction with overweight. I know of no medical contraindications to its exhibition. This diet is so arranged that fruits are segregated from other starches, and that large quantities of starch are not taken in conjunction with the meat meal. The fruit breakfast eliminates the "mild jag," so common in America, which results from the mixture of fruit, cereals, toast, and eggs. The carbohydrate value of the diet is made up at the lunch hour, and the protein fraction completed in the evening meal, in conjunction with which an abundance of green vegetables and five and ten per cent fruits are allowable. The overweight individual with a host of digestive disorders will find himself materially benefited even by a short period of adherence to this dietary. Owing to the division of the day's rations into a fruit, a starch and a protein meal, specific limitation of amount is rarely necessary, but is easily carried out by placing a definite figure after every item mentioned in Chart 4.

CHART 4.—DIET 2

GENERAL PRINCIPLES:

Never Eat Hurriedly.—Chew food thoroughly. It is less harmful to omit the meal entirely than to eat rapidly, thus preventing the digestive juices from being properly secreted. A small amount, thoroughly chewed, satisfies more completely than three times the amount taken rapidly.

Eat Less of Fat and Starchy Foods.—It may be difficult to break the habit of starch and sugar eating, because improperly eating these foods generates alcohol in the digestive tract, giving a quiet "jag." Eat no pastries, and no fried food.

There should be a keen desire for food, so that even the thought of a dry crust makes the mouth water. At first you will crave food when there is a "faint" or "all-gone" feeling at the pit of the stomach, without knowing just what food you would like to have. This is not real hunger. Learn to *taste* foods and a much smaller amount will satisfy.

PART A—MENU

Morning Meal—One or two oranges (or juice); glass of milk or buttermilk (sipped); cup of cereal, coffee, kaffee hag, postum, etc., or cup of cambric tea in place of milk or buttermilk. (Formula for cambric tea: Hot milk, one part; hot water, three parts. A little honey or brown sugar, if desired.) No real coffee or tea.

Noon Meal—One concentrated starchy food (see food chart); one or two cooked vegetables; one raw vegetable; moderate amount of dairy (fresh) butter or oil (on salad); bread, as desired.

Evening Meal—Meat or substitute for meat (no red meat, no fried meat); salad of either uncooked fruits or raw vegetables. One or two cooked non-starchy vegetables.

PART B—FOOD CHART

Concentrated starchy foods:

Sweet potatoes	Indian corn
Artichokes	Rice
Dried beans (all kinds)	Dried peas
Cereals or any product made from whole grain and wheat	Yams
Peanuts	Barley
White potatoes	Oats
Bread (graham or whole wheat)	Rye
Lentils	Buckwheat

Uncooked fruits and raw vegetables:

Cabbage	Apricots
Cucumbers (fresh)	Onions
Peppers (sweet)	Tomatoes
Watercress	Grapefruit
Blackberries	Mulberries
Gooseberries	Prunes
Lemons	Dates
Nectarines	Cranberries
Plums (some varieties)	Loganberries
Tangerines	Pineapple
Carrots (grated)	Strawberries
Parsley	Grapes
Cherries	Huckleberries
Peaches	Celery
Persimmons	Radishes
Figs (dried)	Apples
Limes	Pears
Oranges	Raisins
Raspberries	

Cooked non-starchy vegetables:

Beet-tops	Cauliflower
Carrots	Green corn
Egg plant (do not fry)	Onions
Peas (fresh)	Squash
Asparagus	Spinach
Beans (green)	Turnip
Celery	Swiss chard
Okra	Brussels sprouts
Pumpkin	Tomatoes
Beets	Rhubarb

Meat and meat substitutes:

Cottage cheese	Eggs
Sea food	Dried peas
Game	Whole wheat products

Desserts—Not recommended. If used, take in moderate quantities and remain within limits of following:

Raisin bread made with whole wheat flour is cake enough for any normal, unspoiled appetite; this should be eaten in combinations given for bread.

Any of the fresh fruits or dried fruits may be taken with the night or "meat meal," preferably not sweetened. You should use honey or brown sugar or maple sugar. Custard and junket may be added to a meal of fruit and dairy products, provided they have been made with honey, maple sugar, or brown sugar.

These two diets afford the general practitioner a successful office routine for handling his overweight patients, provided the patient's confidence in him outweighs the urge of appetite and whim; for, the physician who attempts the handling of such people must never forget the all-important query put to rhyme by Owen Meredith:

"We may live without books, what is knowledge but grieving,

We may live without hope, what is hope but deceiving,

We may live without love, what is passion but pining,
But where is the man who can live without dining?"

450 Sutter Street.

REFERENCE

1. Jones, J. M.: J. Lab. and Clin. Med., 11:959, 1926.

DISCUSSION

ROLAND CUMMINGS, M. D. (523 West Sixth Street, Los Angeles).—The subject of obesity is being clarified. I agree with Doctor McGavack that to lose weight it is necessary to have the inflow of energy less than the outgo. That is a simple statement, but many times is a thing that is accomplished with great difficulty.

The reduction of the hypothyroid type of obesity and the reduction of the obesity of hypernutrition are very simple problems, but the reduction of the common type of obesity, the girdle type—or so-called "pituitary obesity"—is very difficult. Pituitary obesity is improperly named, because beyond a reasonable doubt this is not pituitary obesity at all. This type of obesity is probably due to a disturbance of the portion of the brain situated between the third ventricle and the pituitary gland. So far as I know, nobody understands why a disturbance in that region produces this obesity or anything specific to do for it. Why is it, in a patient who has this type of obesity, that the skin about the girdle, when grafted on the back of the hand, will become obese in that area so that there will be obesity of the back of the hand?

Many of these patients with this type of obesity will not lose in weight on a diet of one thousand calories. I am satisfied that many of them will not lose in weight unless their diet is below five hundred calories a day, and then they lose the weight from all over the body in the same proportion as they do from the hips. They will become emaciated about the chest and neck while they are still obese about the hips. To me, this type is the big problem in obesity and until we learn more as to its specific cause I fear we will not be able to treat it very satisfactorily.

It seems to me the ideal dietary principle to use in obesity after one finds out the maximum amount of calories an individual can be permitted to take, is to build up a diet that contains about 25 per cent more protein than is necessary for nitrogen balance, the remainder of the calories being carbohydrates as far as possible, placing only enough fat in the diet to make it palatable, as the object is to get the patient to eat his own fat.

In general, I would agree with Doctor McGavack's ideas and I think he has quite simplified the matter, which is a very important thing in the treatment of obese patients. The frequent feeding is a splendid point, as such a great percentage of the patients who cannot lose unless their diets are under five hundred calories feel so weak and faint when they are cut down to that amount that they won't stick to a diet, but by taking very small amounts frequently, they will come nearer to living on a diet that is low in calories than in any other way.

✱

W. D. SANSUM, M. D. (317 West Pueblo, Santa Barbara).—The reducing diets which we use are also fairly high in calories. They contain more carbohydrate and less fat. The following formulas individualized for each patient are most frequently used:

800 calories—C-90	P-65	F-20
1000 calories—C-125	P-70	F-25
1200 calories—C-160	P-75	F-30

The eight hundred calorie diet is used only in the beginning or when patients must necessarily remain in bed. On leaving the hospital we rarely ever use a diet lower than one thousand calories.

We agree that an adequate amount of protein is essential, but calculate it according to individual requirement, using one gram per kilogram of the average of actual and ideal weight. We have had patients gain in weight while taking an eight hundred calorie diet containing forty or less grams of protein and had them lose satisfactorily in weight on a one thousand calorie diet containing adequate protein. Patients very frequently gain in weight while starving and while taking diets as low as 250 to 500 calories. We believe

that this gain in weight is due to an increase in the water content of the body incident to the protein starvation.

We have never observed any ill effects from the mixing of carbohydrates, protein, and fats in the same meal. Very little sugar as such can be used on these limited diets, which applies also to honey, brown sugar and maple sugar of nearly equal caloric value. We use real coffee and tea.

We find that when patients fully understand that life is shortened by overweight they are much more willing to cooperate than when they center their attention only on the problem of good looks. We therefore acquaint them with the dangers of overweight, which are summed up as follows:

Prominent life insurance companies have collected some comprehensive statistical studies which demonstrate the risk of obesity from an insurance viewpoint. These show that for each pound a person is over or underweight the expectancy of life is decreased by one per cent. For example, a woman forty years of age, five feet six inches tall, should weigh 138 pounds dressed. Her expectancy of life should be twenty-eight years. If, however, at this age she weighs 188 pounds, that is fifty pounds overweight, she can expect to live only fourteen years longer. Instead of living to be sixty-eight years of age she can expect to live to be only fifty-four years of age. Life is shortened by obesity probably because of the many diseases which accompany it. Some of these are:

1. Enlargement of the heart. The heart must enlarge to carry the burden of excessive weight.

2. Increased blood pressure. Each pound of excess weight requires approximately one extra mile of small blood vessels. Increased pressure is necessary to carry the blood through this extra network of blood vessels. As the blood pressure rises, further enlargement of the heart is necessary to perform the additional work required.

3. Predilection to diabetes. Overweight is so commonly followed by or associated with diabetes that leading authorities consider it to be one of the most important factors in the cause of this serious disease.

4. Lowered general body resistance. The general body resistance is usually lowered in the presence of overweight so that obese people are always more susceptible to such common diseases as pneumonia, and when such diseases appear the prognosis is always more grave than in the presence of normal weight.

5. Increased surgical risk. Surgical conditions such as gall-stones occur more frequently in overweight persons. If surgery becomes necessary in obese individuals the surgical risk is thereby increased so much that surgeons hesitate to perform operations.

✱

H. LISSER, M. D., AND H. CLARE SHEPARDSON, M. D. (204 Fitzhugh Building, San Francisco).—As we have stated before on more than one occasion, "there is no royal road to reduction," whether it be by such common-sense diets as Doctor McGavack finds satisfactory or by any one of the never-ceasing weird diet cures, a new one of which has its vogue for a few months every year or so. Included in this sweeping statement are other fads as, "losing in the bathtub" by some miraculous salt; victrola cures, roller cures, or gland cures.

We thoroughly endorse the points brought out by Doctor Cummings in his discussion. Our experience substantiates his contention that a goodly number of obese individuals require severely subcaloric diets to effect even a moderate weight loss. To many who cling to the law of the conservation of energy, such a statement seems incomprehensible. Nevertheless, we insist that this holds true, at least in a respectable minority, at the same time admitting that we can offer no explanation for the metabolic abnormality responsible for this queer state of affairs. In this connection the experience of Mason at McGill University

may be referred to, who found it necessary in certain instances to restrict the caloric intake to the pitifully low ration of 250 to 300 calories per day, and offered the suggestion that the underlying disturbance was probably an alteration in the specific dynamic response to protein, fat, or carbohydrate.

A basal metabolism estimation at the outset, and preferably more than one, should be a routine procedure before instituting any variety of reduction therapy. Although the majority of obese persons will be found to have a normal rate, a surprisingly large percentage will fall in the range of 8 to 25 per cent minus, and many of these patients would not be suspected of hypothyroidism either from symptoms or appearance. The proper use of glandular therapy in such patients is obviously indicated and highly beneficial; nor should organotherapy be restricted to those obese persons who have a subnormal basal rate. It is hardly necessary to add, however, that all patients undergoing a reduction regimen, whether it be by diet alone or with the addition of glandular therapy, require frequent observation and control.

From a practical standpoint the most important facts in planning a diet designed to assist in reduction of weight are simplicity and adequacy. The condition is, after all, a chronic one, rarely, if ever, cured. Therefore there is little justification in diets which are so radical that they cannot be continued over a long period of time. Very few obese individuals will "count the calories" year in and year out. To this extent they differ from the diabetic patient, who must do so to preserve life and health.

Doctor McGavack is to be commended for calling attention to this important subject, and his diets have the merit of simplicity and adequacy. Our experience would lead us to forecast that these diets will prove satisfactory in 40 to 60 per cent of cases.

✱

DOCTOR MCGAVACK (Closing).—One is frequently confronted by the overweight individual with such expressions as these: "I am sick of weighing my diet"; "I just cannot stay on any diet without being unendurably hungry"; "Wouldn't it be all right for me to try one of the advertised reducing foods?" and so forth. Therefore it has been my desire to present here diets for obesity in a form easily applicable by the physician and reasonably pleasing to the patient. As Doctors Lissner and Shepardson have well said, "there is no royal road to reduction"—no possibility of legerdemain transformation, as it were. However, if the physician is to steer his patients away from every new fad and fancy, he must be in a position to present measures aimed at a correction of the primarily abnormal relationship between intake and outgo of energy.

Undoubtedly, the whole subject of overweight and its treatment is a highly specialized field of importance, but it is not always practicable to place the patient in the hands of one especially trained. With ordinary diagnostic acumen, hypernutritional, hypothyroid, and "girdle" types of obesity may be differentiated. Needless to say, proper organotherapy should be instituted, and in hypothyroid cases that alone is usually sufficient to correct the overweight. In the hypernutritional type, diet alone may be sufficient, though I heartily agree with Doctors Lissner and Shepardson that here, too, organotherapy, properly controlled, is a useful adjunct.

In the "girdle" type of obesity, I have found—in a very limited experience—that immediate weight decrease is the rule from the exhibition of Diet I. Usually this initial loss is regained, until, at the end of from ten to sixteen days, the weight may have returned to the original figure. Newburgh and Johnston have recently discussed this subject at some length. They have shown that the water retention periods are followed by weight losses commensurate with the degree to which the diet is below the required caloric

less than the patient thinks he can pay is inserted. This dispels any feeling of our attempting to drive a hard bargain, and when payments fall due the payor must acknowledge that he made his own terms.

If a payment has not been made within five days after it is due, a short simple letter is sent the delinquent debtor calling his attention to the fact and asking for prompt remittance.

We have met with practically no objections from patients when asked to execute these installment payment cards, if asked to do so at the time of their dismissal, but we have not met with much success when attempting to get old open accounts transferred to the installment payment system, which confirms a long-held opinion that prompt business methods are just as important to a doctor's success as to any business.*

Medico-Dental Building.

* Editor's Note.—Apropos of the method described by Doctor Shepard, the printers of California and Western Medicine, The James H. Barry Company, 1122 Mission Street, San Francisco, have reprinted an article by the editor of California and Western Medicine, which appeared in the issue of September, 1927, page 338, and in which a collection plan devised by him years ago for members of the Los Angeles County Medical Association was explained. The James H. Barry Company print these outfits at a low cost and will be glad to send specimen forms to all members of the California Medical Association who make request therefor.

THE LURE OF MEDICAL HISTORY*

ESSAYS ON THE HISTORY OF EMBRYOLOGY†

By A. W. MEYER, M. D.

Stanford University

XI

PRODUCTION OF ABNORMALITIES

It seems that the elder Geoffrey St. Hilaire was the first to attempt to produce abnormalities in incubating bird eggs. He coated half of the shell with wax but without effect and declared that it mattered not whether the eggs were turned, after the manner of the hen herself, but stated that

* A Twenty-five Years Ago column, made up of excerpts from the official journal of the California Medical Association of twenty-five years ago, is printed in each issue of California and Western Medicine. The column is one of the regular features of the Miscellaneous Department of California and Western Medicine, and its page number will be found on the front cover index.

† This is the eleventh paper of a series of essays on this subject. Previous papers were printed in this journal as follows: Part I, in December California and Western Medicine, page 147; Part II, in January number, page 40; Part III, in February number, page 105; Part IV, in March number, page 176; Part V, in April number, page 241; Part VI, in May number, page 341; Part VII, in June number, page 394; Part VIII, in July number, page 41; Part IX, in August number, page 111; Part X, in September number, page 184.

[illegible]

Chart 3.—The above is a salmon-colored card of very durable material and is kept by the patient and presented for credit receipt with each payment. It serves as a constant reminder of the amount of the balance due and the date of the next payment.

Chart 4.—Both sides of card printed.

setting eggs on end resulted in the development of abnormalities. Hilaire thought that this was due to failure of formation of the air space whenever the large end of the egg was put downward. This finding was contrary to that of Réaumur, who stated that the air space always forms on the large end of the egg whether or not it is placed uppermost. St. Hilaire, the elder, also stated that malformations would be produced by tearing the embryo during early development, but Leuckart, who repeated some of Valentin's experiments confirming Hilaire, found that dividing the blastodisk did not give rise to malformation but stopped development. Although Gilis declared that St. Hilaire "penetrated the mechanism of the formation of monsters" showing that they are due to arrest of development through adhesions, Panum thought Hilaire's work too fragmentary to enable one to form any idea of its significance. According to Gilis, Swammerdam and Hilaire both tried to produce monsters experimentally, but only Hilaire succeeded. The younger Hilaire shook hen eggs horizontally before incubation and declared that such agitation prolonged the incubation period. He also removed part of the egg shell, coated the shells and pierced them with needles, but apparently without effect.

Panum, who made a very careful study of the occurrence of abnormalities in hen eggs before and during incubation, concluded that putrefying eggs are those that contain malformations. He undertook a carefully planned series of experiments to test this idea and to establish that malformations usually cause early death. According to Panum, "simple malformations" are more common in birds than in mammals, although he said that they were less common among birds than mammals among museum specimens. He found that eggs with a partly cracked shell would not develop if the crack was turned upward but that they would do so if it was turned downward, and declared that little was then (1860) known regarding the development of double eggs or of those with an "appendix."

It seems that Fremy and Valenciennes concluded that eggs with three or more yolks will not develop and that Jacobi (1765) stated that anomalies were more common in fish eggs which he attempted to fertilize artificially. Valenciennes found abnormalities more common in pike embryos which had been kept in too little water for seven hours, following artificial insemination. He found six such specimens in nine hundred and seventeen, all of them being accompanied by a single yolk.

Lereboullet (1852) also observed abnormal development in pike eggs which had been artificially inseminated, and all of which likewise were accompanied by a single yolk. Somewhat later he observed twenty-seven monstrosities in similarly inseminated fish eggs kept under unfavorable conditions. One of these had three heads and two trunks and hearts. Some of these instances of abnormal development were observed as early as

the time of formation of the "Nota primitiva" or notochord, and all were found on single yolks. Lereboullet never observed fusion of embryos which had developed on double yolks. It is interesting that Coste (1855) also observed abnormalities in artificially inseminated fish eggs having noticed a hundred in four thousand carp and salmon eggs.

Because Lihartzik (1858) had the idea that underdevelopment of the thorax was responsible for rickets and tuberculosis, he again investigated the effect of the position of the hen egg during incubation upon the course of development of the chick. He stated that when eggs were incubated with the large end uppermost, the head of the chick was smaller and the abdomen larger and the chick somewhat weaker, and declared that it remained so for some time after hatching. A reversal of the position of the egg was reported to have an opposite effect upon body form. When the egg was incubated in the horizontal position Lihartzik claimed that the pressure of the trunk against the head resulted in compression of the thorax, but nevertheless concluded from his experience with forty-eight eggs that the horizontal position is the most favorable one. Lihartzik's investigations confirmed those of Réaumur and contradicted those of St. Hilaire, who had stated that a horizontal position of the egg caused the development of abnormalities in the chick.

It is of special interest that a special commission was appointed in Denmark to determine the effect of irrespirable gases upon incubating eggs and that it found that development does not take place if the containers are tightly stoppered or sealed. Since it had been shown that development sometimes begins under warm water, it probably also did so in these cases unless the eggs were not incubated immediately after exposure to the gases.

Dareste (1856), who, according to Gilis, carried the art of producing monstrosities to a degree of perfection which was astonishing, found that varnishing the ends of eggs has a deleterious effect if done early in incubation, but not if it is done later on. He stated, that varnishing the large end resulted unfavorably in some cases because this treatment compelled the allantois to obtain relation with the shell in a nonvarnished area, and this he thought was the cause of the abnormalities. Dareste also varied the temperature during incubation and placed the eggs in various positions, as others had done before him. It seems that Dareste was the first to try the effect of electricity upon developing eggs and found that induction shocks produce malformations. He also showed that incubating the two halves of the hen egg at different temperatures results in unequal growth.

Panum, to whom I am mainly indebted for the above account, also mentioned the experiments of Poseleger, who coated eggs with oil, glue, and collodium, but found that none of these agents

affected the duration of the period of incubation, but that dipping eggs in wax prevented development altogether.

STUDIES ON FERTILIZATION OF THE OVUM

Soon after these earlier experimental investigations were made, embryology received more and more attention and much work was undertaken, especially upon the fertilization of the ovum. Some of these results were contrary to those obtained by earlier investigators with the hen egg. Morgan, for example, found that frog eggs when inverted gave rise to two embryos, and Hertwig found that amphibian eggs could be influenced to undergo meroblastic instead of holoblastic cleavage, and that keeping frog eggs in one to two per cent sodium chlorid solution retards development and frequently produces hemierania and other developmental defects. Kolman by raising the temperature of eggs produced spina bifida, and others since then have produced a variety of abnormalities by changing the conditions of development such as the composition of the liquid or of the atmosphere in which the eggs were incubated, or by mechanical injury by puncturing, burning, and cutting or by rotation or exposure to radiations of various intensities and lengths. Anyone interested in the recent development of experimental embryology will find fascinating reading in Morgan's volume issued in 1927 and in a treatise on chemical embryology by Needham, published in 1931. For further information reference to the literature is indispensable.

Although Bonnet wrote to Spallanzani in 1781 saying that the mystery of fertilization was almost resolved, yet that mystery still faces us today. It is true that artificial insemination was done by the second Malpighi and that artificial fertilization was accomplished later on in some lower forms, but it should not be overlooked that even a full-grown "frog without a father," would not be the equivalent of one with a father. Although Boveri found that a portion of an ovum devoid of a nucleus can be fertilized by a spermatozoon and that development can thus be initiated and that separation of the first two blastomeres may result in the formation of an entire individual from each, these things are not possible in all

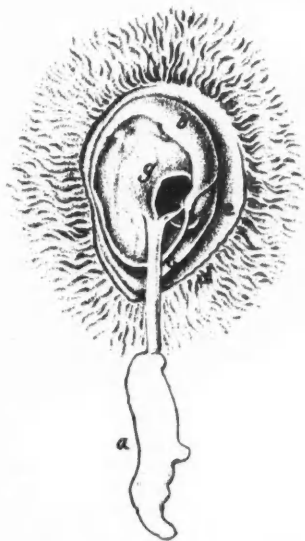


Fig. 7.—Human embryo with membranes, after von Baer, Table 4, Fig. 15. (a) embryo, (b) amnion, (c) serous lining, (d) chorion, (e) allantois, (f) insertion of umbilical cord. This is undoubtedly a retained macerated abortus (partly redrawn and relettered).

forms and can only be regarded as being highly suggestive indications for future work. It is highly improbable that it will be possible to substitute chemicals for the spermatozoon until the chemistry of the gene is fully understood, and that lies far in the future indeed.

As long as we shall remain ignorant of the true nature of the processes of development, we shall be compelled to add to the long list of words, "the mystical host," as Whitman called them, to designate hidden forces. In this list belong the first psychical causes or "psychic arche" or Aristotle; the archeus of Paracelsus; the impressio idealis of Harvey; the vis corporis essentialis of Wolff; the forcé expansiv or vis productrix of Needham; the nisus formativus of Blumenbach; the contactum vitalem, the virtue formatrix, and similar expressions of others. If such expressions as these are not used with an air of finality and are not permitted to become what Hertwig called "Ruhekissen," little harm is done. Even in the present day we speak of determinants and organizers. Although new terms are necessary to express a change in our point of view, all such expressions will possess only an historical interest in the near future.

Experimental embryologists working on lower vertebrates have done a very large amount of work since Roux began his important investigations on the mechanics of development and founded his well known Archiv. Many surprisingly interesting things have been revealed by this work, but no one can be at all certain as to how far the denouement peculiar to these very labile lower vertebrates typifies that in the higher. In the latter, experimentation is beset with much greater difficulties. It is natural that the chemical aspects of development are receiving an increasing amount of attention in these days of great interest in chemistry and that the physiology of reproduction also occupies an unusually prominent place in modern biological investigations. It is probable that a better understanding of abnormal development will come through experimental morphologic and chemical studies, although they can only be undertaken intelligently after the possession of detailed knowledge of normal development. This could only fail to be true if structure and function were not indissolubly joined; if not every functional change had a morphologic basis; if man could think without a brain.

STUDIES ON HEREDITY

One phase of embryology which has been developed so extensively by Morgan and his co-workers is of particular significance and importance to the physician. I refer, to be sure, to the work on heredity, regarding which even recent graduates in medicine are quite uninformed. This is highly regrettable and bound to entail personal and social disadvantages of a very serious kind. Although no one has yet seen a gene, anyone who stands in the rôle of personal or public advisor on health can no more act wisely without a knowledge of heredity than if he be ignorant of hormones or vitamins, yet this fact has received but slow recognition even in our medical schools.

IN CONCLUSION

It has not been my aim to bring the history of embryology up to our day. So much has been accomplished in the last two generations that the review of this portion alone would be a considerable task and also one full of pitfalls. Although we know the history of the development of only a relatively few forms thoroughly, no one can encompass the entire field of embryology at present. Nor was it my aim to give the complete history of early embryology even. For that America lacks some of the indispensable literature.

I used the essay form because it permits greater freedom and have followed the chronological order in the main, but confined myself almost entirely to vertebrate embryology. I took little account of the philosophers and metaphysicians. There was enough speculation among naturalists, and the history of embryology shows that speculations regarding development approximated the truth inversely in proportion to their elaborateness. Observation and experiment always have accomplished more.

Imagination never has been able to fill gaps in our knowledge and has proven an unsafe guide. Narrowing the wide horizon of the unknown has been and can be accomplished only through observation and experiment. Although ultimate causes have eluded us, it often has been possible to learn something about how things happened even if not why they happened, and this probably will long remain true.

I have tried to convey something of the spirit of the older investigators by permitting them to speak for themselves. This could be accomplished only by quotations. Except for minor changes and some additions, these essays represent a series of lectures given for a half a decade, as an introduction to mammalian embryology. Many other topics could, hence, have been chosen and those considered could have been dealt with at greater length. I have deliberately avoided making a detailed analysis of the contribution of different investigators, for this could not be done without the introduction of many details of interest to the specialist only, and these essays are not intended for him.*

Department of Anatomy, Stanford University.

(The end)

* Editor's Note: Complete list of references will appear in the reprints.

The First Appendectomy.—Prof. Hermann Kümmell, surgeon of Hamburg, celebrated his eightieth birthday May 22. Kümmell was the first surgeon in Germany to perform the well known appendix operation (in 1889). He likewise pointed out ways for the elimination of cancer, for combating tuberculosis, and for the recognition of unobserved injuries of the spinal column. His researches have aided also in the spread of antiseptics and asepsis. He devoted himself primarily to surgery of the abdominal cavity and to disorders of the kidneys and of the urinary system. The handbook of surgery published by Kümmell in collaboration with Bier and Braun is known the world over.—*Journal of American Medical Association*, Vol. 99, No. 3.

SOME MEDICAL EXPERIENCES IN PERSIA

BEING A COMPILATION OF LETTERS FROM THE
LATE JOSEPH W. COOK, M. D.

LETTER II*

A TRIP TO NEHAVEND IN LOORISTAN

Written at Hamadan, Persia,
The American Hospital.

IT is interesting that in Persia every city or district is known for a certain characteristic. Isfahan, they say, is noted for the ability of its inhabitants to pull the wool over the eyes of prospective purchasers. Thus, Nehavend, where as I have said we went in May, is notorious for its miserliness. It is a city of some 16,000, of whom 1000 to 2000 are Jews. Nehavend is extremely rich in opium and tobacco, the opium in great demand for its high morphin content. But I never saw such terrible poverty; even the wealthy look poor and I saw no fine homes; the wealthy seem not to be willing to spend their money nor to know how to enjoy it. The city's curse is opium; 90 per cent of the population is addicted to it, they say, and without overstatement I fear; certainly the majority of my patients acknowledged their use of it. I did seven cataract operations, one iridectomy, fifteen hemorrhoid injections, twenty-five intravenous injections of typhoid vaccine for various conditions, fifteen neosalvarsan injections, two cauterizations for corneal ulcers, fifteen private calls, and saw 1933 patients during that week. It was very difficult to keep one's equilibrium. At 7 a. m. the sick would begin to come; scores of well-to-do were turned away for refusal to pay the examination fee; at the same time literally hundreds of poor people were seen and treated. Never have I seen such filth and such rags and such poverty, but behind them all I could see good faces and even some beauty. The women were interesting, rather longish faces, brown hair, gray-blue eyes, good features. But about 80 per cent had bad eyes, mostly trachoma so bad as to require weeks of persistent treatment to effect any sort of improvement. Fully 60 per cent had malaria or its effect; very few had anything that I could really help, but oh, the frantic passion to be examined and, as they hoped, cured! The crowd milled around the door, actually fighting for a chance to come in. It was hard, in such confusion, to make proper examinations. Suppose you had several children with chills and fever, or very bad eyes, no money to buy medicines even if you knew what to use; or suppose you had lost eight or ten children unborn and knew you would be thrust out by your husband, or perhaps had never had a baby and had already been thrown out by several husbands; or your husband was sick, even dying, and no one able to help; or you as a father were sick, unable to work, and four or five children starving?

* Letter I of this paper was printed in the September issue of California and Western Medicine, page 187.

One day a poor boy of fifteen came, suffering from painful swollen bones, the cause of which was uncertain. I decided to give him an injection of neo-salvarsan and told him to come in the morning. He mentioned that he had a blind and crippled grandmother. I had him wait, and after the dispensary walked with him to his home, on the way passing over the cavern where, twenty years before, a rich treasure of royal goods was found. His house was close to the ruined citadel where Yezddegird had lived in all his splendor before Omar overran Persia some 1300 years ago. The ground floor was used for donkeys, cows, and sheep; the second floor for one-room apartments; and up in one corner was a third story with a narrow porch; in a small room I found a poor, old, crippled woman, blind in both eyes; one had a none too hopeful cataract. I told the boy to bring her the next morning. On the way back I found an old man begging; I stooped to look at his eyes and found a beautiful cataract; I begged him to come and let me operate on him. "No, no!" he cried out, "I've tried it and—no good. My other eye was operated on and ruined, and I suffered too much." Some two or three days later he appeared; but when told he would have to have a friend to care for him a few days, he said it was impossible, as he had no friend, and no place but a bath or hammam in which to stay.

A mother brought her baby of 1½ years, pale and anemic; she said that it had been very sick ever since the cat had eaten the baby's hand off. It seemed that about a year before a cat or wild-cat had killed two or three children within the city, had eaten the arm of one and the hand of this baby.

A man showed me his face, with a patch of paper over the root of the nose. There was a bad scar down the side; the patch covered two holes into the ethmoid sinuses, opening right into the skull. A year before, in the mountains of Looristan, a big bear had embraced him and bitten his nose, just missing his eyes. How he got free I cannot understand.

Not a day passed but two or three of the four leading local doctors, all Jews as usual, sat with us as we examined and prescribed. In all my trips I have never found such good doctors, men so anxious to learn. I took every occasion to reassure the people that they were lucky to have such good doctors.

One evening I was recommending the very latest Boston treatment for sterility by use of duq, the Persian substitute for Bulgarian bacillus culture, when one of the doctors said: "Isn't it curious that among the Loors whenever mares are sterile they use this same treatment, with almost universal success?" I confess I was surprised, and wondered whether the Boston specialist had got his idea by chance from our Loorish friends.

Nearly all the well-to-do suffered from the usual Persian malady of bavasir or hemorrhoids,

for which I find the injection of phenol in glycerine almost miraculous in its curative properties. In any case it makes for us many friends because of its simplicity. One day three big, green-turbaned men, all descendants of the Prophet, were sitting in the dispensary, all suffering from this complaint. Waiting for the instruments to boil, I ventured to remark, in reply to a statement that one had made, that this work was of God and was just such work as Jesus had approved, and that the passage in the New Testament that appealed to me most was, "Inasmuch as ye have done it unto one of the least of these, my brethren, ye have done it unto me." They all agreed. The leader, Haji Agha Yeddullah, hesitated, however, to acknowledge that God could live in us, but admitted that this Spirit was something we couldn't understand. I asked them why they did not start some such dispensary work in connection with their mosques. The reply was rather vague.

After seeing 1933 patients in less than a week, overwhelmed and exhausted, I returned to my family in Hamadan.

Sincerely yours,

JOSEPH W. COOK.

(To be concluded)

CLINICAL NOTES AND CASE REPORTS

CHORION EPITHELIOMA IN PATIENT SEVENTY YEARS OF AGE*

REPORT OF CASE

By WILLIAM R. DORR, M. D.

AND

ORAN I. CUTLER, M. D.

Loma Linda

IT has been observed a number of times that chorion epithelioma may occur in women fifty years of age, but the majority of cases are found in patients considerably younger.¹ While the condition undoubtedly is infrequent in patients as old as seventy years of age, it probably is of some practical importance to call attention to the fact that such a case has been seen.

REPORT OF CASE

Mrs. E. J. C., age seventy, a widow, entered the Riverside County Hospital on August 21, 1930, complaining of a bloody vaginal discharge of two months' duration, with some pain in lower left quadrant extending down into the leg. She also complained of indigestion and cough with some sputum.

The general physical examination was negative except some moist râles in chest and an enlargement of the uterus to about the size of a medium-sized orange. The blood pressure was 168/86. The urine

* From the Riverside County Hospital and the Pathology Department of the College of Medical Evangelists.



Fig. 1.—Uterus opened showing tumor distending the fundus.

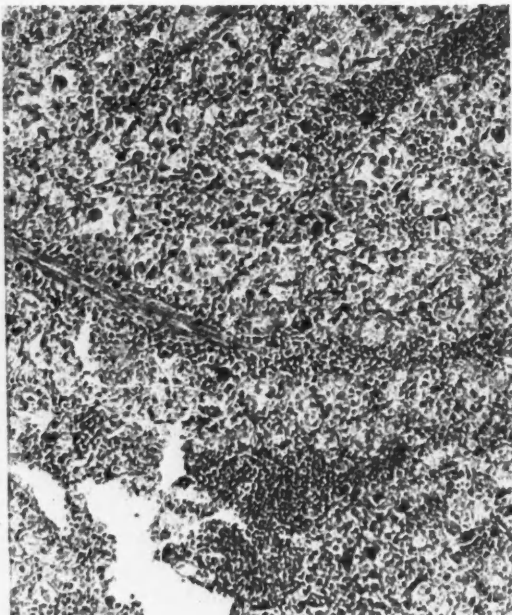


Fig. 2.—Microphotograph showing large pale cells of Langhans type and hemorrhage.

showed a trace of albumin and a few hyaline casts. No tubercle bacilli were found in the sputum. As a young woman the patient had malaria and typhoid, and had influenza thirteen years ago. Since that time she had been well until her present sickness.

The menses began at thirteen, and at first were scant and irregular. She had five children when 24, 26, 33, 38, and 40 years of age. All were full term, normal deliveries, with no abortions or miscarriages. The menopause began at forty-five years and ended at fifty-five years.

A diagnostic curettage was done by Doctor Felps, and on September 16 a hysterectomy was performed by Dr. T. A. Card. On October 18, 1930, the patient was discharged from the hospital in good condition after an uneventful but slow convalescence.

Pathologic Report.—An examination of the curetted material showed a number of coarse pieces of friable mottled reddish gray tissue. In sectioning the tissue, it was found to consist principally of solid masses of cells having clear cytoplasm and well outlined nuclei. The nuclei of the cells were round or oval and varied considerably in size. There were occasional nucleated cells having dark staining cytoplasm; most of these were less than twenty-five microns in diameter. The tissue was quite vascular, but there was very little fibrous tissue stroma. Necrosis, hemorrhage, and leukocytic infiltration were fairly prominent. The uterus measured 7 x 6 x 3 centimeters. The outline was distorted by the presence of a fibromyoma 2.5 centimeters in diameter which was embedded in the wall to one side of the fundus. The cervix was removed with the body of the uterus, and was narrow. The external os was a little irregular. The uterine cavity contained a soft, friable, hemorrhagic mass which was nearly round and measured 2.5 centimeters in diameter. The posterior surface of the mass was adherent to the uterine wall, but the anterior was unattached and was comparatively smooth.

Sections of the portions of the uterine wall not adherent to the mass found in the cavity showed a lining of thin endometrium containing a moderate number of small glands. The soft friable mass was composed of disintegrating blood-clot, shreds of fibrin and

masses of tissue resembling that found in the curettings but too necrotic for positive identification in any of a number of blocks studied. At the site of the attachment of the mass to the uterine wall there was a layer of granulation tissue which was invaded by a number of projections of nearly completely necrotic tissue resembling that found in the other portions of the mass.

COMMENT

There is a relatively high incidence of chorion epithelioma following hydatidiform mole, but cases are not infrequently found following other pregnancies which have resulted in the retention of placental tissue in the uterus. Such tissue is retained following a certain number of normal deliveries.² Many times its presence is probably not detected, but in some of the cases which are complicated by infection or in which the quantity of retained tissue is large there will be definite clinical evidence of its presence.³

In the majority of cases the period during which the material remains in the uterus is short and the possibility of the development of chorion epithelioma is slight. An occasional instance is found in which portions of placenta tissues have been retained in the uterus for a number of years following the last pregnancy.^{4,5} It seems probable that the living chorionic cells which are present occasionally take part in the formation of a chorion epithelioma.⁶ If this were true in the case of the patient here recorded, it appears that chorionic cells were retained in the uterus for a period of thirty years.

Loma Linda.

REFERENCES

1. Schweitzer, B.: Klinisches und Pathologisch-Anatomisches zu Blasenmole und Chorionepithelioma malignum, Med. Klinik, 18:1113-1116 (Aug. 27), 1922.

2. Zangemeister, W. K.: Ueber die Retention von Plazentarresten nach rechtzeitigen Geburten, *München Med. Wchnschr.*, 68:388 (April 1), 1921.

3. Schickelé, G.: Apropos de la rétention prolongée de débris et polypes placentaires, *Paris Méd.* 10:109 (Aug. 7), 1920.

4. Tritsch, John E.: Prolonged Retention of Placental Remnants, *Am. Surg.*, 6:770-774 (June), 1929.

5. Rucker, M. P.: Frequency and Symptoms of Prolonged Retained Placenta, *Virginia M. Monthly*, 53:362-367 (Sept.), 1926.

6. Vineberg, Hiram N.: Clinical Data on Chorion Epithelioma with End Results of Operative Treatment, *Surg., Gynec., Obst.*, 28:123 (Feb.), 1919.

SIMPLIFIED ENCEPHALOGRAPHY TECHNIQUE*

By JULES H. MASSERMAN, M.D.
San Francisco

THE diagnostic value and comparative safety of encephalography have, in recent years, tended to make it an almost universally adopted procedure. Performance of encephalography with manometric control through a single lumbar needle has, however, hitherto been complicated by the necessity for frequent reconnections of the syringe and manometer, and by a tendency of air to distort the readings of the latter. In order to avoid these drawbacks the majority of recent writers have recommended the insertion of individual

needles for the respective instruments, in the belief that the added discomfort and danger of infection was compensated for by the smoother technique.

The accompanying photographs illustrate a simple encephalography procedure developed on the neurological service of the Stanford University Hospital.

ADVANTAGES OF METHOD

Certain advantages of the method may briefly be summarized as follows:

1. The discomfort and danger of the patient is lessened, inasmuch as the necessity for double lumbar puncture is obviated.
2. Pressure-by-pressure air replacement of the spinal fluid is rendered possible through the availability of constant manometric control.
3. The entire apparatus may be boiled as a unit and none of the parts need be disconnected during the procedure, thus favoring sterility.
4. Encephalography is rendered possible of performance by a single operator, since no assistants are necessary to steady the manometer, collect the spinal fluid, etc.
5. The method can be universally employed, inasmuch as parts are available in almost every hospital, and the apparatus is easily transportable.

Stanford Hospital.

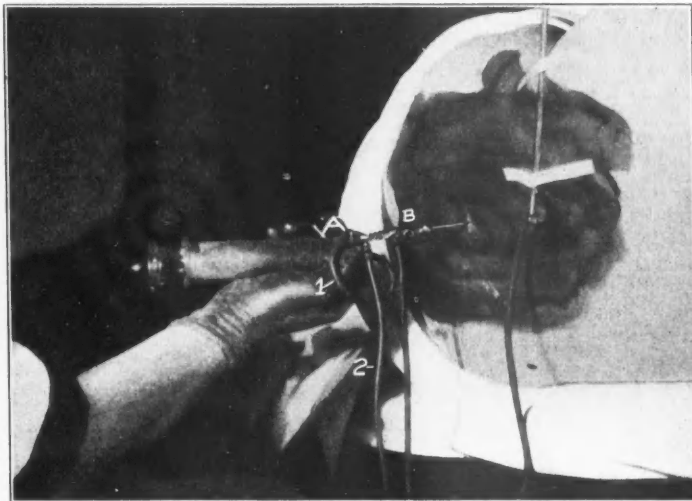


Fig. 1.—A and B are three-way valves fitted together and interposed between a 50 cubic centimeter syringe and the needle inserted into the patient's lumbar spine. Tube (1) connects the syringe to valve (A), allowing both to be steadied with the left hand; the right hand is then free to move the plunger and manipulate the valves. Tube (2) guides the escaping spinal fluid into a sterile graduate. The rubber U tube connects valve (B) with a manometer, strapped to the patient's back at any indicated level, and serves to keep air from disturbing the readings of the instrument.

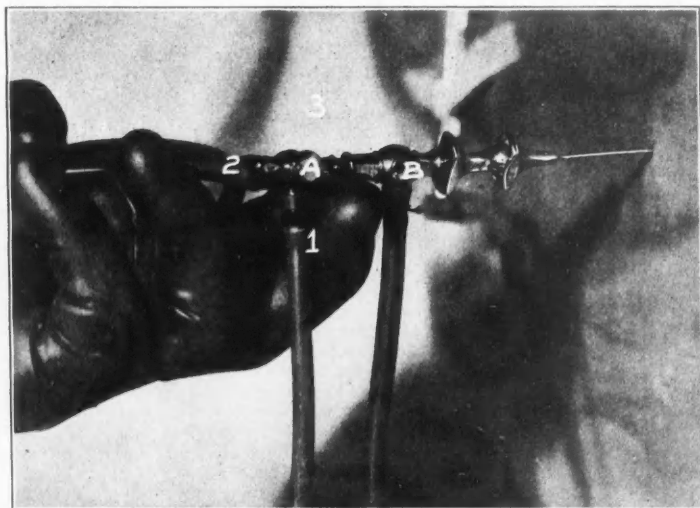


Fig. 2.—Illustrating technique. With valve (B) horizontal and valve (A) pointed downward (1), spinal fluid escapes into the graduate. When valve (A) is pointed up (3) air may be drawn into the syringe; with (A) horizontal this air may be injected into the spinal canal. Manometric readings may be obtained at any time by moving valve (B), so that pressure-for-pressure replacement is possible.

* From the Stanford Neurological Division of the Medical Department Service of Dr. Walter F. Schaller.

A COMMON ERROR IN SURGICAL JUDGMENT*

By HAROLD E. CROWE, M. D.
Los Angeles

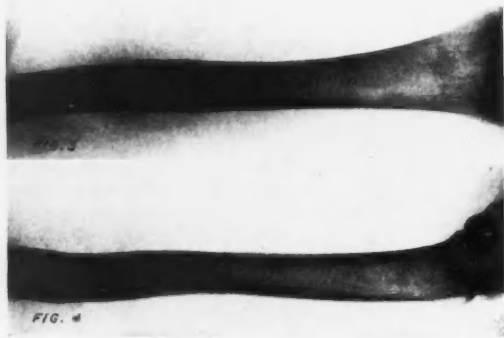
FOUR times during the past year we have seen cases of femoral fractures in children under the care of good physicians. On each occasion the complaint was that an anatomical reduction of the fracture was impossible. One case had been treated with two types of traction apparatus in addition to three attempts at closed reduction under anesthetic. The parents were frantic because the bone was not set. The physician was



Figs. 1 and 2.—A. P. and lateral of result in reduction of a fractured femur, May, 1930. Further surgery was considered inadvisable because of skull fracture.

worried because of his failure to produce what he felt was the required result and had called us to do an open reduction. At that time the fragments of the fractured femoral shaft were in contact, there was no overlapping and no rotation of one fragment on the other; the lateral x-ray showed a complete offset at the fracture line. In other words, the fracture was satisfactorily re-

* From the Orthopaedic Hospital, Los Angeles.



Figs. 3 and 4.—End result of case shown in figures 1 and 2, in March, 1932.

duced. The principal mistake was in demonstrating the x-rays to the parents.

In general, it is a common error not to leave well enough alone. In particular this is true in fractures in the upper two-thirds of the femoral shaft in children under ten years of age. The x-rays presented show an apparently bad result in such a fracture. Follow-up two years later shows a perfect functional result, no visible or measurable disturbance of leg alignment or length, and x-ray results to satisfy the most apprehensive parents.

2417 South Hope Street.

COCCIDIOIDAL GRANULOMA—PRIMARY IN THE NASOPHARYNX*

REPORT OF CASE

By J. H. CHILDREY, M. D.,
AND
P. A. GRAY, M. D.,
Santa Barbara

THE number of reported cases of coccidioidal granuloma has increased considerably during the last few years. Bulletin number 57 of the California State Department of Public Health, published in 1931, contains data concerning 286 cases and includes a complete bibliography. The disease is known to attack every organ of the body except the intestinal tract. Lesions of the pharynx, however, are quite rare. Three cases have been recorded in which there was a retropharyngeal abscess,¹ each apparently a distal presentation of a lesion in the spine. Templeton² reported mycotic plaques of the pharynx in which the organisms were found. A careful search of the literature has disclosed no account of a case in which the primary lesion was in the nasopharynx. Such a case is reported here.

REPORT OF CASE

Mrs. D. B., aged 28 years, an American housewife, resident of Bakersfield, California, was admitted to the Sansum Clinic on August 13, 1931, complaining of cough, fever, and loss of weight.

For about a year she had noted a peculiar stuffiness of both ears and a slight impairment of hearing. During the past six months she had lost twenty-five pounds in weight. Four months before admission she had noted a tickling sensation in her throat. A month later she became "feverish" at night and two weeks later developed an almost constant productive tracheal cough, expectorating on several occasions "chunks" of blood-streaked tissue which resembled necrotic flesh. Night sweats had been present for a month before admission and for the past three weeks there had been definite elevation of the temperature each day. Six weeks before admission pustular skin lesions had appeared on the face, left forefinger, and back. A nose and throat examination by a specialist on August 10, 1931, was reported negative.

The family history was negative. The patient's two children were well. The past history was irrelevant. She had lived in California for the preceding ten years and had enjoyed good health except for frequent colds.

Physical Examination.—The patient was a pale woman, 5 feet 5¼ inches in height, weighing 132 pounds. Her skin had a subicteric tint and she

* From the Sansum Clinic.

coughed frequently. There was a nodular, ulcerated lesion at the outer canthus of the left eye and another on the left forefinger, each roughly two centimeters in diameter. There were several pustular nodular lesions over the trunk, shoulders, and chin. The anterior cervical lymph nodes were moderately enlarged but were not tender. A left preauricular lymph node was approximately 1.5 centimeters in diameter. The cardiac findings were within normal limits except for a rate of 128 at rest. The lungs expanded equally. Resonance was impaired over the left lower lobe; the breathing tones were increased, but no râles were heard. The abdomen was tender everywhere and the liver margin was palpable below the costal arch. The spleen was not palpable. The pelvis was negative save for slight tenderness of the left adnexa.

The blood picture showed hemoglobin 60 per cent, erythrocytes 4,000,000, leukocytes 13,650, lymphocytes 42 per cent, polymorphonuclears 42 per cent, eosinophiles 15 per cent, basophiles 1 per cent. The sputum was repeatedly negative for tubercle bacilli. The patient's blood serum did not agglutinate with *B. typhosus*, *B. paratyphosus* A and B, *B. abortus*, or *B. melitensis*. The blood Wassermann and Kahn tests were negative. Urinalysis was normal. Stools contained no parasites. A roentgenogram of the chest revealed considerable thickening about the right hilus region and a questionable infiltration of the right lung at the level of the third interspace. The bony thorax was normal. The thickening of the mediastinum suggested a localized nontuberculous infection resembling coccidioid granuloma. Smears from the pus of the finger lesion showed only staphylococci. Blood cultures were repeatedly negative. A roentgenogram of the gastro-intestinal tract was negative. The case continued to be acute. The temperature each afternoon rose to 101 to 103 degrees. The blood



Fig. 1.—Sketch of lesion in nasopharynx. Posterior rhinoscopic view.

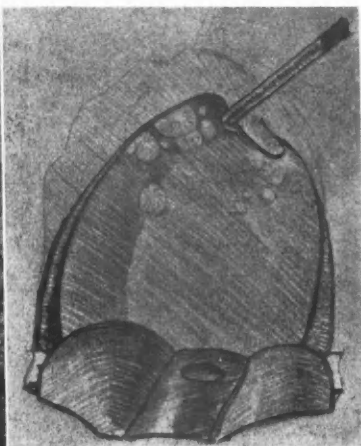


Fig. 2.—Sketch of lower portion of granuloma of pharynx.

picture remained essentially the same, the noteworthy feature being the eosinophilia of from 8 to 15 per cent.

During the first month of observation there had been no nose or throat complaint. Examination made for acute coryza revealed a considerable amount of firm, nodular, granulomatous tissue on the vault and posterior wall of the nasopharynx (Figs. 1 and 2). The mass filled about half of the nasopharynx but did not obstruct nasal respiration sufficiently to be noticeable. Its surface was covered by tenacious mucus and was superficially ulcerated in spots. A tiny pustule could be seen on the posterior wall of the pharynx to the left of the midline. The ears, nose, tonsils and larynx exhibited nothing of note. Indirect laryngoscopy revealed more ulcerated granulation tissue in the trachea at about the level of the manubrium. The gross appearance of this lesion resembled that of blastomycosis as described by New.³

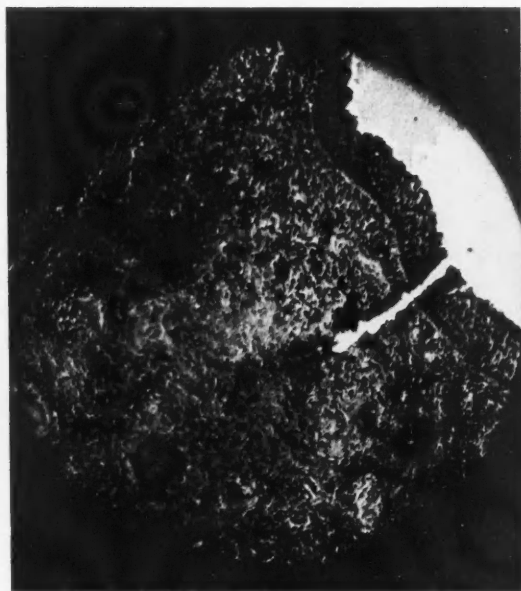


Fig. 3.—Blopsy material from nasopharynx X 100. Note tubercle-like granulation tissue, round and plasma cells, polymorphonuclear leukocytes and giant cells. Several typical organisms are visible.

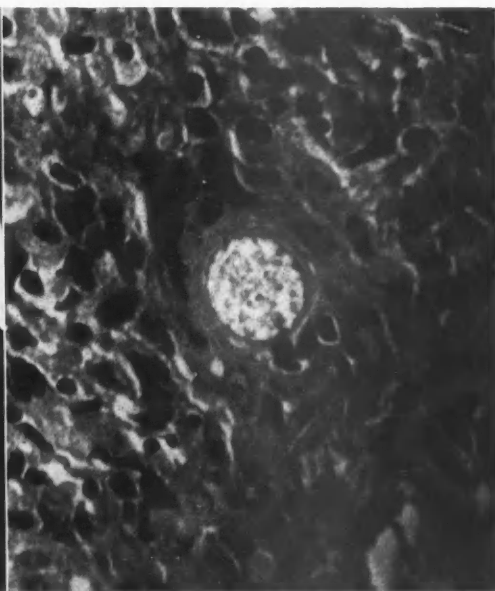


Fig. 4.—Blopsy material from nasopharynx X 425. Endospore-forming organism within giant cell.

A centrifuged specimen of sputum treated with potassium hydroxid contained the typical endosporulating cysts of *Coccidioides immitis*. Renewed search disclosed these organisms in the pus from the finger. Biopsy of the lesion in the nasopharynx was obtained and the characteristic organisms were found. Later the organisms were cultured from centrifuged urine and from the blood. Cultures of the organisms obtained from the sputum were injected intraperitoneally into male guinea pigs and produced a characteristic orchitis and death in three weeks. The organisms were obtained from the lesions in the guinea pigs.

Treatment consisted in (1) the local application of one-quarter per cent copper sulphate solution to the skin lesions, (2) intensive deep x-ray irradiation of the chest and nasopharynx, (3) the peroral administration of saturated solution of potassium iodid to the patient's toleration, and (4) the intravenous injection of 1 per cent solution of antimony and potassium tartrate. At first there was a slight symptomatic improvement. The granulomatous tissue in the trachea regressed; that in the pharynx remained unchanged. After this initial improvement the clinical course was steadily down hill. The skin became pigmented, and six weeks before death rigidity of the neck developed, tendon reflexes became exaggerated, and paralysis of both external recti muscles appeared. Convulsive seizures and mental disorientation preceded coma. Death occurred December 8, 1931. Blood cultures taken the day before death were positive for *coccidioides immitis*.

Autopsy.—Dr. R. D. Evans, pathologist of the Santa Barbara Cottage Hospital, performed an autopsy. His findings were in part as follows: Besides the cutaneous lesions and that in the nasopharynx, there was generalized enlargement of the mediastinal, tracheobronchial and biliary lymph nodes. On the inferior surface of the diaphragm and the superior and inferior surfaces of the left lobe of the liver, there were fairly numerous miliary lesions. These were also visible on the cut surfaces of the liver and spleen. In sections of the liver, mesenteric lymph nodes, and tissue from the nasopharynx there were circumscribed regions of necrosis, characterized by round cell infiltration, polyblasts and giant cells, in which the coccidioidal bodies were seen. The latter were particularly abundant in the lymph nodes and tissues from the nasopharynx, and many contained endospores. No gross lesions were seen in the intestinal tract, brain or lungs.

DISCUSSION

The mode of human infection with *Coccidioides immitis* is still unsettled. The skin and the respiratory tract have been regarded as the chief portals of entry. The fungus has not yet been found in a free state in nature, but it is thought to grow as a saprophyte in the soil or on plants.* The spores have been known to remain alive for two years. Since they are light enough to float in the air, they may be disseminated in the dust. Ophüls⁴ considered the inhalation of the spores of the greatest importance and claimed that in most all autopsied cases the primary focus could be demonstrated in the lungs. The skin is undoubtedly another important portal of entry as has been shown both clinically⁵ and experimentally.⁶ Jacobson⁷ postulated the possibility of transfer through insect bites. Incidences of transfer from man to man and of infection of the alimentary canal are lacking.

In our patient the fact that aural symptoms had been noted for at least six months prior to the

onset of the general symptoms and the finding of a large granuloma in the nasopharynx suggested strongly that the lesion in the nasopharynx was the initial one. The findings at autopsy seem to confirm this. The paralysis of the external recti muscles which developed before death might be ascribed also to the nasopharyngeal tumor because no gross lesions were encountered in the brain or meninges at autopsy. New⁸ and Woltman⁹ have already described symptoms of involvement of the cranial nerves by malignant growths in the nasopharynx. The many cases cited in the literature in which the cervical lymph nodes were found abscessed suggest that these cases may have had an unrecognized lesion in the nasopharynx. The cervical nodes may have been infected secondarily to such a focus. This region is difficult to examine and has probably been neglected in most cases. The autopsy reports would scarcely have included mention of this region.

CONCLUSION

A case of coccidioidal granuloma is reported, with the autopsy findings. The primary lesion seems to have been in the nasopharynx. This lesion is described for the first time.

REFERENCES

1. Cooke, J. V.: Immunity Tests in Coccidioidal Granuloma, *Archiv. Int. Med.*, 15:479-486, 1915.
2. Ragle, R. E.: Coccidioidal Granuloma with Report of Case, *U. S. Naval Bulletin*, 27:1-11 A-13, 657-661, 1929.
3. Dickson, E. C.: Case No. 64, *Bulletin No. 57, Coccidioidal Granuloma*, Calif. Dept. Pub. Health, 1931.
4. Templeton, H. J.: Discussion, Jacobson, H. P.: Coccidioidal Granuloma, *Archiv. Dermatol.*, 21:790-817, 1930.
5. New, G. B.: Blastomycosis of the Larynx, *Annals Otol. Rhinol. and Laryng.*, 37:240-250, (Mar.) 1928.
6. Ophüls, William: Further Observations on a Pathogenic Mold Formerly Described as a Protozoan, *Jour. Exper. Med.*, 6:444, (Feb.) 1905.
7. Beck, M. D.: *Bulletin No. 57, Coccidioidal Granuloma*, Calif. Dept. Pub. Health, 1931.
8. Ahlfeldt, F. E.: Studies in Coccidioidal Granuloma—Mode of Infection, *Arch. Path. and Lab. Med.*, 2:206-216, (Aug.) 1926.
9. Jacobson, H. P.: Coccidioidal Granuloma, *Arch. Dermat.*, 21:790-817, 1930.
10. New, G. B.: Syndrome of Malignant Tumors of the Nasopharynx, *Jour. A. M. A.*, 79:10-14, (July) 1922.
11. Woltman, H. W.: Malignant Tumors of the Nasopharynx with Involvement of the Nervous System, *Arch. Neurol. and Psychiat.*, 8:412-429, (Oct.) 1922.

HYDROSALPINX—WITH TORSION OF PEDICLE

REPORT OF CASE

By E. VINCENT ASKEY, M. D.
Los Angeles

TORSION of the uterus and its appendages in both the normal and diseased states has been recently the subject of some study.

Robinson and Duvall¹ give abstracts of twenty-five cases of torsion of the pregnant uterus and report one of their own. Downer and Brines²

* Note.—Since this article was submitted for publication Stewart and Meyer have succeeded in isolating the *coccidioides immitis* from the soil. *V. Proc. Soc. Exp. Biol. and Med.*, Vol. 29, p. 937, 1932.

call attention to cases of normal tubes and ovaries in virgins, which had become twisted. They believed this condition to be more frequent than usually considered. It has been suggested that such torsion could be the cause of certain cases of hydrosalpinx and hematosalpinx in virgins in whom none of the usual inflammatory precursors of these conditions were present.

The occurrence of twisted pedicle of a pedunculated fibroid has been recorded. Ovarian tumors, especially cysts, long have been the most commonly recognized condition wherein torsion is apt to occur.

Hydrosalpinx torsion has been seen less frequently, but is a definitely recognized condition. Eastman³ has collected the available data on such cases which were reported up to 1927. He summarizes his findings by stating that there were reported, to that date, a minimum of ninety-one cases of torsion of hydrosalpinx. He is of the opinion that the true incidence of this condition is much higher than the given figure would indicate. The condition is of sufficient rarity to justify the report of such a case for record.

REPORT OF CASE

Present Illness.—The patient, a girl of sixteen years, with intact hymen, awoke on the morning of July 13, 1931, with generalized pain over the lower abdomen. This pain was of a cramp-like character, but was not severe. She thought, because she was nauseated, that she had eaten something that had upset her. She was visiting friends here and did not wish to complain, so she went with them to the beach and in bathing about noon. The pain then became so severe that she was forced to go home to bed. It continued all night, but no doctor was called until the following day. At that time, twenty-four hours after the onset of trouble, the pain was mild, so that she was comfortable as long as she remained lying down, with her thighs flexed. Her physician, Dr. William Noble Carter, wished to send her to the hospital, but she demurred. Observation was continued.

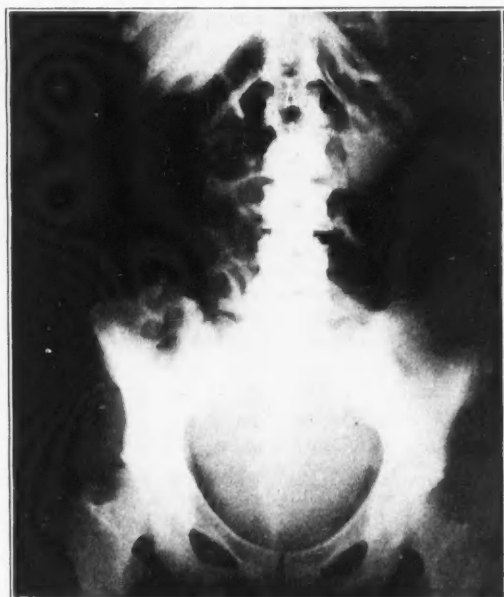


Fig. 1.—X-ray plate of the pelvis taken before operation.

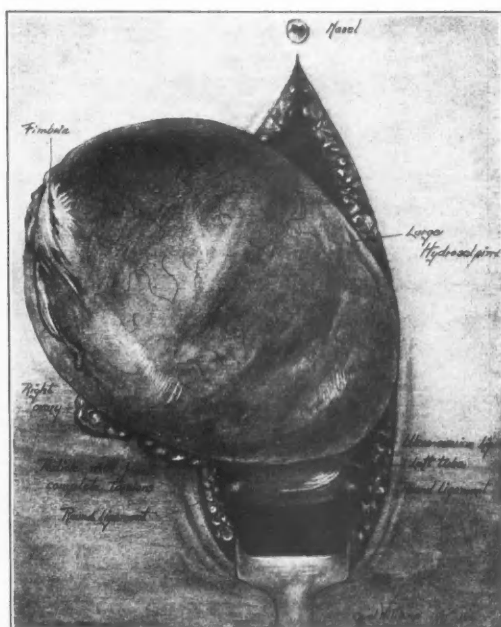


Fig. 2.—Drawing depicting the condition found at operation.

The following morning, forty-eight hours after onset, the pain was more severe and the patient had developed a temperature of 100.4 F. Doctor Carter then insisted on hospitalization and called the writer in consultation.

Past History.—The past history revealed that the patient had had, at intervals, attacks of mild pain in the right lower abdomen for several years. These attacks were more pronounced at her menstruation periods and were of a cramp-like character and were usually accompanied by nausea. Her menses were regular, but at times a little scanty. She remembered no pelvic infection or injury. Chronic appendicitis had been diagnosed as the cause of these recurrent attacks of pain.

About one year ago the patient was quite ill with influenza, which required several weeks' convalescence. She has had many injections for acne vulgaris of the face in the last year. She had never noticed nor been told of any mass in the abdomen. Other past medical history elicited no points of interest.

Examination.—Examination revealed no abnormalities, except for the abdominal and pelvic findings. The patient was in a semi-Fowler position in bed, with thighs flexed. She complained that the pain was greatly intensified, if she straightened out. Abdominal examination showed a prominent bulging just suprapubic, which gave the appearance of a four and one-half months' pregnant uterus, or a distended bladder. There was not marked rigidity, except during spasms of pain, but there was marked tenderness to pressure just below and outside McBurney's point. The mass itself was not very tender, but pressure on the mass evoked pain over the tender point above noted.

Pelvic examination revealed normal vaginal vulva, and vaginal examination, therefore, was not done.

Rectal examination showed a large soft mass fixed low in the pelvis. The uterus could not be definitely outlined.

The patient's temperature was now 102.4 F. Pulse was 108. The white blood cell count was 16,000; polymorphonuclears, 88 per cent. Bladder catheterization gave only two ounces of urine, which was normal on analysis. X-ray was taken at once, with the following report by Dr. K. S. Davis: "A flat roentgenogram

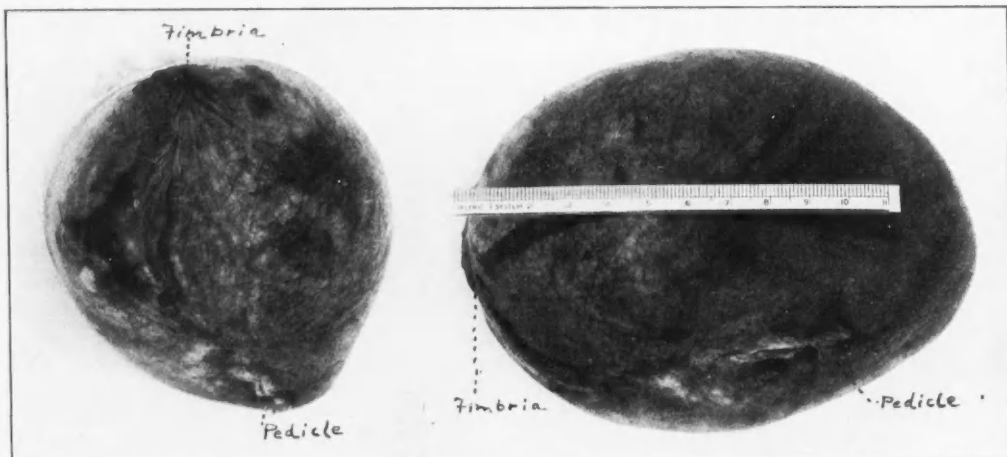


Fig. 3.—Photograph of actual specimen.

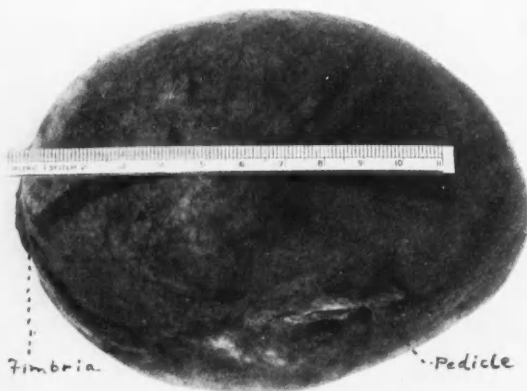


Fig. 4.—Photograph of actual specimen.

of the abdomen and pelvis shows a soft tissue tumor in the pelvis. There is no demonstrable evidence of fetal bones."

Diagnosis.—Diagnosis was made of ovarian cyst with twisted pedicle, with possible acute appendicitis. Immediate operation was advised. Consent for operation was withheld for two hours, until her parents were reached by long distance telephone. At that time the patient's white blood cell count had risen to 25,500. Operation was performed July 15, 1931, about fifty-six hours after onset of pain.

Operation.—At operation the usual lower median incision was made. On opening the peritoneum a considerable amount of straw-colored serous fluid was found. A large, bluish discolored cystic mass presented into the wound. This at first was thought to be ovarian in origin. It was quite tightly fixed in the pelvis, but was not adherent. Pressure by an assistant, through the rectum, allowed the mass to be delivered easily. Closer examination then revealed the mass to be a large hydrosalpinx of the right tube, which was twisted on a pedicle four complete turns. The twisting was clockwise. The right ovary was found lying below and to the outer side of the mass. It was apparently normal and was not included in the twisted pedicle. The pedicle was severed between hemostats and the mass removed intact. The uterus was small and normal, but was completely retroverted. The left adnexae were normal. The cecum and ascending colon were found lying high in the right upper abdomen and the appendix, being retrocecal, could not be visualized. There was, apparently, incomplete rotation of the colon of a congenital nature. Gall-bladder, stomach, and duodenum were apparently normal to palpation. The abdomen was then closed without drainage.

The pathologic examination was made by Dr. Ernest M. Hall, who gave the following report: "Specimen consists of a large egg-shaped hydrosalpinx, measuring 11 by 10 centimeters. The wall is about two millimeters thick, and the cyst is filled with clear fluid. The surface is smooth except for the fimbriated end, which is spread leaf-like over the distal portion of the cyst. The cyst wall is dark purplish in color. Diagnosis: Hydrosalpinx due to congenital closure of the fimbriated end, with early gangrene due to twisted pedicle."

The patient made an uneventful recovery, being discharged from the hospital on the twelfth postoperative day.

COMMENT

This case presents several especially interesting features. The absence of any discoverable history

of previous pelvic infection leads to speculation as to the cause of the hydrosalpinx. The finding of the congenital deformity of the cecum, appendix, and ascending colon suggests the possibility of other malformations. Congenital stricture of the tube is a theoretical cause of hydrosalpinx. The history of intermittent attacks of right-sided pain of several years' duration indicates that the tube has not been normal for some time. The tight fit of the mass in the pelvis makes it difficult to explain the four complete turns found on the pedicle, unless the size of the mass had increased after the torsion had occurred. This would tend to support Downer and Brines's² contention previously alluded to, namely, that normal tubes not uncommonly become twisted and may thereupon be the cause of hydrosalpinx.

Figure 1 is a copy of Doctor Davis' x-ray plate of the pelvis taken before operation.

Doctor Hall's technicians have prepared a drawing depicting the condition found at operation (Figure 2), and a photograph of the actual specimen (Figure 3).

SUMMARY

1. A short résumé of the occurrence of twisted hydrosalpinx is presented.
2. The history and findings of hydrosalpinx with torsion, occurring in a virgin, sixteen years of age, is presented.
3. It is suggested that this hydrosalpinx may have been the result of torsion of a normal tube originally, or possibly have been the result of congenital malformation of the tube, since other malformations were found.
4. Pictures of the specimen are presented.

1930 Wilshire Boulevard.

REFERENCES

1. Robinson, A. L., and Duvall, H. Muriel: Torsion of Pregnant Uterus, J. Obst. and Gynec., Brit. Emp., Manchester. Spring, 1930. Page 55.
2. Downer, I. G., and Brines, O. A.: Torsion of Undiseased Uterine Adnexae in Virgins, Am. J. Obst. and Gynec., St. Louis. Vol. 21. No. 5. May, 1931.
3. Eastman, Nicholson J.: Torsion of Hydrosalpinx, Surg. Gynec. and Obst. Vol. 45. No. 2. August, 1927.

BEDSIDE MEDICINE FOR BEDSIDE DOCTORS

An Open Forum for brief discussions of the workaday problems of the bedside doctor. Suggestions of subjects for discussions invited.

ECZEMA

Regarding Etiology and Classification

STUART C. WAY, M.D. (490 Post Street, San Francisco).—The word "eczema" comes from the Greek, and means to boil out. This origin undoubtedly accounts for its wide use, not only by the laity but by the general practitioner, for many of the dermatoses create this impression, at least to the uninitiated.

As a result of advances made in dermatology in recent years, and as the disease has been divided into various groups, according to their etiology, the use of the word is becoming more restricted.

Group 1. *Infantile eczema*, which is commonly regarded as an allergic phenomenon and often due to milk; therefore external therapy is not always permanent in its results. Satisfactory results are often best obtained from proper adjustment of the diet.

Group 2. *Dermatomycosis* in which the exciting cause is a fungus. Some of the common fungi include: trichophyton, aspergillus, epidermophyton, and monilia.

Group 3. *Seborrheic dermatitis* due to bacterial infection. Such infections may persist undiscovered in the sinuses, mastoid cells, gall-bladder, and other organs; and last, but not least, in the prostate. Heredity plays an important rôle and a tendency toward the disease often runs in certain families and throughout several generations.

Group 4. *Occupational dermatitis* due to contact with such irritants as turpentine and its derivatives; cement dust, acids, alkalis, and various other chemicals. Vulnerability of the skin varies greatly with different individuals at different ages and in the same person at different times, according to the state of his health. The preventive treatment here is naturally the avoidance of contact with any of the known irritants.

Group 5. *Neurodermatitis* with frequent lichenification in which there is a functional nervous disturbance. Proper diet is important, for many a case of neurodermatitis has been cleared up by its correction, together with local applications and röntgen radiation.

Group 6. *Allergic dermatitis* forms an altogether too large a group which is becoming as great an offender as "eczema" itself did in the past. Only too often this diagnosis is made without sufficient reason. Without doubt the phenomenon of sensitization is often present in an individual, but one should not overlook the fact that many substances produce a dermatitis because of their irritating properties. In every instance the cause should be searched for and re-

moved, not only for curative reasons, but for the prevention of recurrences. The appearance of a lesion is often deceiving as far as etiology is concerned, for local irritation can cause a simple erythema, a papular or vesicular eruption or, in the course of time, a resultant thickened and squamous condition of the skin.

Some of the common external causes are clothing, such as wool and fur; cosmetics; plants, including primroses, lilies, and chrysanthemums; soaps and various chemicals, including the dyes. The internal causes are innumerable and vary from the by-products of foods to the use of certain drugs.

Group 7. *Varicose eczema*, seen in middle and late adult life, occurs as a result of varicose veins, which produce a circulatory disturbance. Vein injections and ligations offer a solution when the deeper vessels are unobstructed. Rest and elevation of the limbs are equally important.

While successful treatment depends upon the removal of the cause rather than upon any form of external therapy, yet x-rays and soothing local applications cannot be safely nor entirely disregarded. In the past the use of the term "eczema" was readily accepted by the laity and covered a multitude of diagnostic errors on the part of the physician, but now it is merely an incentive to search for the true cause.

* * *

Regarding Diagnosis

H. J. TEMPLETON, M.D. (3115 Webster Street, Oakland).—The use of the term "eczema" has been considered by some as indicating the height of dermatologic ignorance, and the term itself has been called the wastebasket of dermatology. Some purists have bent over backward in their attempts to completely eliminate this word and to substitute for it the term "dermatitis." This reaction has been caused by the inexperienced, who in careless usage of the diagnosis "eczema" have included all dermatoses which they could not classify otherwise. Such usage should be regarded as an indication of weakness on the part of the observer rather than an inaccuracy of the term.

To one who favors the retention of the term "eczema," such a diagnosis refers to a symptom complex, a picture painted on the skin, regardless of the etiology. Having recognized such a picture, the observer knows that he must attempt to discover its artist; that is, he must immediately start hunting for the etiologic factor. An intelligent handling of a case of eczema demands an accurate diagnosis of the cutaneous lesions involved, but even more so does it demand an accurate diag-

nosis of the factors producing the lesions. Unless one is etiologically minded in diagnosing eczema, one can be hopelessly lost.

Eczema has been described¹ as "An acute or chronic inflammatory disease characterized by erythema, papules, vesicles, pustules, scales, scabs or crusts, alone or in combination, with associated thickening and infiltration, and more or less attendant itching and burning." In dermatologic textbooks many pages are usually devoted to the differentiation of eczema from various dermatoses such as impetigo, lichen planus, and psoriasis. Such a method of approach is obviously impossible in a paper of this length. Therefore I shall attempt to draw from my own experience some points which have aided me in the diagnosis of this age-old condition. In so doing I shall be obliged to take for granted some knowledge on the part of my readers of the clinical picture of eczema.

Eczema of the scalp is not uncommon and is, most frequently, of the seborrheic variety. Such an eczema is associated with a rather severe dandruff and with reddening and itching of the scalp. It has quite a tendency to involve the retroauricular area and to creep downward onto the forehead and eyebrows. In severe cases it may involve the sternal and interscapular regions and also the axillae and groin. It is sometimes quite difficult to differentiate seborrheic eczema of the scalp from psoriasis, but in such instances it will be helpful to search for seborrheic eczema elsewhere, in its favorite areas just mentioned, and for psoriasis at its sites of predilection, the elbows and knees. It must also be differentiated from eczema of the scalp due to chemical irritants contained in various hair tonics, orris root shampoos, hair dyes and pomades. Here, of course, the diagnosis rests upon the history and upon recovery following removal of the suspected irritant.

Eczema of the face is often of the seborrheic variety and generally occurs on a skin which is excessively oily. The nasolabial fold is its favorite haunt as well as the area between the eyebrows and the eyebrows themselves. It must be differentiated from the eczemas of the face which so frequently are caused by external irritants such as orris root face powders, many of the newer high-powered facial creams, skin foods, and bleaches as well as some shaving lotions and creams. Pustular eczema of the face may come into diagnostic confusion with sycosis vulgaris, but if one remembers that this latter entity is a pustular folliculitis, characterized by pustules pierced by hairs, the problem is clarified. Moreover, sycosis vulgaris is limited to the bearded areas while pustular eczema occurs on the non-bearded as well as the bearded portions of the face. The typical "stuck on" yellow crusts of impetigo contagiosa should separate this dermatosis from pustular eczema. The sign which has helped me the most in diagnosing impetigo is the loosening of the epidermis around the periphery of the lesion. When it is wiped with a piece of gauze it separates and leaves a moist reddened denuded area around the periphery of the crusted area.

Eczema of the axillae and groin may be seborrheic in origin. I have found it difficult in many instances to differentiate such cases from an eczema produced by fungi, that is, from epidermomycosis. In solving such a problem, one should look for evidences of seborrhea elsewhere, as mentioned above, and should examine scrapings from the periphery of lesions for fungi. In seborrheic eczema of the axillae the borders of the lesions are not as sharply margined as those of epidermomycosis. Here again, external irritants enter the picture, for many cases of eczema of the axilla have been caused by deodorants, depilatories, and shaving.

Eczemas of the hands generally turn out to be due to either external irritants or to fungus infections. The differentiation of the two varieties is extremely difficult and yet is of the greatest importance from the industrial standpoint. Moreover, when both factors are operative in producing a given case of eczema it takes a second Solomon sitting in judgment to decide between the claims of the patient and the interest of the insurance carrier. In the trade or occupational eczemas due to external irritants there is often a history of either the use of a new substance in the industry (such as the substitution of the synthetic "turps" for pure turpentine in paints) or an unusually intimate or prolonged contact with the substance at fault. If the patient is honest and unprejudiced his history may be of value in solving the problem, but in some industrial cases it may have to be accepted with reservations. It is in such instances that we have received a great deal of help from the so-called "patch test" of Bloch and Jadassohn. This is of value not only in industrial cases, but also whenever any external irritant is suspected of being the cause of a given eczema. Specifically we have found it worth while in diagnosing cases of eczema of the neck due to furs and perfumes, in eczema of the face due to orris root-containing powders, in eczema of the axilla caused by a dyed dress, in eczema of the face of a Japanese florist caused by chrysanthemums, in eczema of the hands and arms caused by primroses, in a recent example of eczema of the hands and arms from sensitization to turnip leaves, in eczema of the hands from turpentine and "turps" in painters, and many other similar instances. The technique of this test is to apply some of the suspected substance to the flexor surface of the patient's forearm and to cover it with rubber dental dam, sealing the edges with adhesive tape. The patch is removed after twenty-four hours and the skin is examined for evidences of irritation. If there is any marked degree of erythema or vesiculation the test is considered as positive. Inasmuch as some irritants do not give an immediate reaction the test should be read daily for a week in order to avoid missing any delayed reactions. In applying this test two precautions should be taken. First, the strength of any substance which is to be applied should be such as to produce no reaction on a normal skin; second, the patient should be instructed to report to the physician at once in case of any degree of

¹ Sutton, Richard L.: *Diseases of the Skin*, eighth edition, Mosby, St. Louis.

discomfort or irritation from the test; this reduces the danger of severe positive reactions.

The diagnosis of the mycotic eczemas or epidermomycoses of the hands depends upon the demonstration of fungi in scales taken from the lesions or in the caps of vesicles which have been clipped off. Such material is inverted, placed on a slide, covered with two or three drops of 30 per cent potassium hydroxid and a cover glass, allowed to stand for twenty-four hours and examined with the high dry lens with the iris diaphragm almost closed. One should be careful not to confuse cell borders with true fungi. If in doubt, the material from vesicles and scales can be sent to the laboratory for cultivation on Sabouraud's medium.

Most eczemas of the feet are caused by fungus infections. The crusted weeping patches on the dorsum, lateral border or sole of the foot known as "eczematoid ringworm," the vesicles seen on the soles or lateral borders of the toes and the sodden macerated, fissured areas between the toes, are all examples of one basic process. A smaller percentage of the eczemas of the feet may be caused by irritants such as dyes in hose or chemicals in shoe leather. If the two varieties cannot be differentiated on clinical grounds, one can have recourse to patch tests and examination for fungi in settling the problem.

Because of limitation of space, I have not discussed the diagnosis of the eczemas caused by food allergy, hyperglycemia, nitrogen retention (cardiovascularrenal breakdown), focal infection—in brief, the eczemas of endogenous origin. Suffice it to say that no consideration of an obscure case of eczema is complete without an appraisal of such internal factors. It is not sufficient that one should be able to make a clinical diagnosis of eczema. Rather, one must also recognize the extreme importance of diagnosing the cause. Only by being etiologically minded can we properly diagnose "eczema" and lift the cloud of opprobrium that has fallen upon the use of this term.

* * *

Regarding Treatment

SAMUEL AYRES, JR., M. D. (2007 Wilshire Boulevard, Los Angeles).—The treatment of eczema may be considered from two points of view—symptomatic or palliative and etiologic or curative. Inasmuch as eczema is not a disease entity but merely a cutaneous reaction or symptom capable of being produced by a wide variety of causes, it becomes obvious that a clear perception of the underlying cause in each individual case is essential for adequate and rational treatment. This calls for a thorough-going history, a careful examination, and such laboratory procedures as may be indicated. Unfortunately, owing to the present limitations of our knowledge, many cases will be encountered in which no definite etiology can be discovered. The most that can be done in such cases is to relieve that patient's discomfort to the best of our ability.

Another complicating factor, however, presents itself at this point. Treatment which would be

immensely helpful to an attack of eczema in one patient may be distinctly irritating to another, or in a given patient, treatment which may be beneficial now might be entirely inadequate three weeks later. Aside from the matter of personal idiosyncrasy, which is always an important factor in dermatology, treatment will be effective in proportion to an understanding of the cutaneous pathology. In other words, a given case of eczema may pass through a series of stages, it might become temporarily arrested at any one stage, or it may assume certain less common secondary appearances. The treatment will vary according to the pathologic development present at the time the case is seen. This can be roughly illustrated by the following diagram (Chart 1):

CHART 1.—Usual Pathological Changes

Erythema	}	Antipruritic and astringent "shake lotions."
Pruritus		
Edema		
Vesiculation		
Vesiculation	}	Astringent wet dressings if inflammation is severe, bland ointments if mild.
Exudation		
Crusting		
Subsistence	}	Bland ointments, mildly stimulating, if this stage is prolonged.
Desquamation		

Secondary pathological changes:

Lichenification (thickening)—Stimulating ointments, such as coal tar.

Papule formation—Shake lotions or mildly stimulating ointments.

Pus formation—Antiseptic and astringent wet dressings.

The following are a few of the type preparations mentioned:

Antipruritic and astringent shake-lotion:

R Phenol	2		5
Zinc oxid	7		5
Calamin	7		5
Glycerin	15		
Lime water ad.....	240		nx

Sig.—Apply frequently.

Astringent wet dressing:

R Liquor aluminum acetate 480.
Sig.—Dilute with water 1 to 4 or 5 and apply as wet dressing.

Bland ointment:

R Zinc oxid	7		5
Cornstarch	7		5
Petrolatum	15		

Sig.—Apply twice daily.

Mildly stimulating ointment:

R Naftalen (Stieve).....	10		
Zinc oxid	10		
Cornstarch	10		

Sig.—Apply twice daily.

Stimulating ointment:

R { Crude coal tar.....	4		
{ Zinc oxid	2		
{ Cornstarch	15		
{ Petrolatum	15		

Sig.—Apply twice daily.

(Note: This ointment must be made up as indicated, and it should be black, not grey, brown, or green. Since coal tar sensitizes the skin to ultra-violet light, inflammation will follow if areas recently treated with coal tar are exposed to the ultra-violet lamp or to sunlight.

Antiseptic and astringent wet dressing:

R Copper sulphate.....	1		6
Zinc sulphate	5		6
Saturated camphor water ad.....	240		

Sig.—Dilute two tablespoons to a glass of water and apply as a wet dressing.

Cocoa butter is very comforting in cases of severe exfoliative dermatitis or other dry generalized types of eczema. It is also useful in those cases of eczema in elderly people whose skins are dried out from excessive bathing.

Recently, eczematoid ringworm or epidermophytosis has received considerable attention. This is usually distinguished from eczema, but many cases are so similar that clinical differentiation is impossible. Cases that are proven by microscopic examination of scales or vesicles to be due to fungi usually respond to Whitfield's ointment, a satisfactory formula for which is:

R Salicylic acid	2
Benzolic acid	4
Benzoinated lard.....	30

This should be applied twice daily until the microscope proves the infection to be eradicated. The bedroom and bathroom, in which have been placed all shoes, socks, slippers, bath mats and many other articles which have come in contact with the infection, should be fumigated with a formaldehyde candle for four hours to prevent reinfection.

In addition to the lesions in which fungi are actually present, the infection is capable under certain circumstances of producing eczematoid lesions on other parts of the body, especially the hands, in which fungi are not present. These secondary lesions are known as "phytids" and probably represent an allergic reaction to the infection, which is most commonly on the feet. The successful treatment of this type of "eczema" obviously depends upon the discovery and antiparasitic treatment of the primary focus. In many instances the patients complain only of the secondary allergic lesions, which, by their conspicuous location on the hands, dwarf into insignificance the more chronic but concealed lesions on the feet or between the toes.

In addition to these drugs, roentgen rays are extremely serviceable in all stages of eczema, but should be administered only by one who is thoroughly familiar with therapeutic x-ray technique. The use of roentgen rays alone seldom results in a permanent cure, and there is great danger of overtreating a recurrent disease. Except under unusual circumstances the dose should not exceed one-quarter of an erythema dose, unfiltered, and should not be given oftener than once a week nor for more than fifteen consecutive times with a rest of two weeks after the seventh dose, nor for more than a total of thirty doses to any one area during the life of the patient. Smaller doses are indicated in the presence of very acute inflammations, and slightly larger doses are permissible in some of the chronic thickened lesions.

Ultra-violet light in suberythema or mild erythema doses is beneficial in some cases of subacute or chronic eczema, and in localized areas of long standing a vigorous erythematous reaction is often beneficial. Small doses of x-ray are usually much more effective, however. Ultra-violet light should be used with the greatest caution in cases of eczema showing a predilection for the exposed areas, such as the face, neck, and arms. Eczema in such locations is sometimes due to an idiosyncrasy to the ultra-violet rays in sunlight and probably would be much aggravated by lamp treatments. Subacute and chronic arsenic poisoning as well as foci of infection frequently sensitize the skin to sunlight.

Eczematous areas should be protected as far as possible from contact with external irritants. In this connection the term "external irritants" is purely a relative one, since substances which are entirely innocuous to a normal skin might be highly irritating to an eczematous skin. The employment of patch tests will serve to detect such external substances as might possibly be the cause of certain eczemas. But aside from the etiologic relationship, many substances encountered in daily life act as nonspecific irritants. For this reason it is important to keep all patches of eczema carefully protected by medication and bandages. Soap and water are usually definitely irritating to an eczematous skin. Where large portions of the body surface are affected, luke-warm colloid baths of short duration, and without soap, may afford considerable relief, in addition to acting as a cleansing agent. Cooked oatmeal gruel tied in a cloth bag and placed in the tub of water serves admirably for this purpose. A cup or two of cornstarch, mixed gradually with a small amount of water and heated slowly to avoid lumping, makes a smooth paste which when added to a tub of luke-warm water gives a very soothing effect to an irritated skin. After the bath the skin should be fanned or patted with a towel, but not rubbed. Under no circumstances should alcohol be used on the skin.

Systemic Treatment.—While the treatment described above is of the utmost importance in making the patient comfortable, it should be clearly recognized that it is at best palliative and is to be used as an adjunct to measures not only to cure the present attack, but to prevent recurrences if possible.

Diet is a very important part of the treatment in many cases of eczema, and sensitization to certain food proteins or food allergy is prominent among the causes of this disorder. Such a state of idiosyncrasy when determined by the skin tests or by trial diets such as have been recommended by Rowe, call for the total removal of the offending food from the dietary. A restriction of carbohydrates and fats is indicated in those cases in which a glucose tolerance test reveals a defective sugar metabolism. Reduction of starches plus the administration of enteric-coated pancreatic extract will often benefit cases of eczema in which a stool examination reveals fermentation and undigested starch granules. Recent investigations have shown that in animals a diet rich in cereals increases the irritability of the skin to a given irritant, while a diet of leafy vegetables and fruits diminishes the irritability of the skin.

A diminished gastric acidity, at times amounting to a total achylia, is occasionally encountered in eczema. In such cases the appropriate diet for such a condition, combined with dilute hydrochloric acid, should be prescribed. Severe generalized cases of eczema are occasionally seen in which a damaged liver or pathologic gall-bladder is found. Often the diseased gall-bladder is of the "silent" type, the diagnosis depending upon functional tests, etc. When such abnormalities are found and corrected, the eczema usually disappears.

Bacterial allergy manifesting itself in an eczematoid reaction to a focus of infection constitutes another important class of cases, the cure of which depends upon the eradication of the infection if possible, as in the case of infected tonsils, teeth, sinuses, prostate, appendix, et cetera, or desensitization by repeated minute doses of autogenous vaccine in cases where the infection cannot be removed. The latter situation is illustrated in those individuals who develop idiosyncrasies to some of the "normal" intestinal bacteria as pointed out by Wherry, Morris and Dorst, and Strietman. Of the more common foci of infection, the nasal sinuses are probably more often overlooked than any other.

It would be desirable for all cases of severe or chronic eczema to have the urine tested for arsenic. A negative history regarding exposure to arsenic is of no value whatever. The writer has encountered many cases of arsenical dermatitis masquerading as eczema, in whom no history of exposure could be obtained yet who responded to the prolonged administration of sodium thiosulphate. Arsenic can be stored in the tissues and so remain for months or possibly years. Sodium thiosulphate has the power of combining with the arsenic and causing it to be eliminated. The treatment is slow and should be continued for months if necessary. The drug should be given intravenously in doses of one gram dissolved in ten cubic centimeters of water, from two to four times a week, depending upon the severity of the eruption and the amount of arsenic found in the urine. The Gutzeit test is satisfactory for determining the amount of arsenic in the urine.

Nonspecific protein therapy in the form of intramuscular injections of whole blood, boiled milk, or of intradermal injections of peptone are of value in certain selected cases of chronic eczema of undetermined cause, but should not be used indiscriminately.

Studies in the mineral metabolism and the acid-base balance are being carried out, but the results are conflicting. While alkalization has generally been regarded as desirable in eczema, some evidence has been brought forward to show that allergic diseases to which class certain types of eczema belong, are benefited by acidotic treatment. The oral administration of calcium has enjoyed an empirical reputation for many years, which has recently been strengthened by experimental studies showing the calcium-potassium ratio is an important factor in the irritability of the skin, a relative increase of calcium tending to diminish irritability, while a relative increase of potassium increases irritability.

The endocrine glands are vitally important in the proper functioning of the body, and disturbances in their secretions probably play a part either directly or indirectly in certain cases of eczema. Rational endocrine therapy in eczema, however, appears to lag behind other methods of treatment. When definite disturbances of gland function can be proven by the usual physical signs and symptoms, the appropriate glandular preparations should be administered.

Finally one must not forget that psychic causes may be all-important in the production of some cases of eczema. A careful history may reveal financial, domestic, social, or other causes of acute or chronic worry or anxiety. These psychic factors may produce a skin eruption by various channels: inhibition of gastric juice leading to improper digestion of food resulting in toxic end products, high blood sugar, endocrine imbalance, etc. Frequently a rest from routine activity or a complete change of environment will work wonders in an otherwise unexplainable eczema.

The internal administration of sedatives is sometimes necessary to control itching which has interfered with rest and sleep. Aspirin or codein are often very satisfactory for this purpose, their action in allaying itching comparing favorably with their effect on pain.

Treatment of Whooping-Cough by Means of Bordet Vaccine.—Induced by the hygiene commission of the League of Nations, Weichsel employed the Bordet vaccine in the treatment of fifty cases of whooping-cough. All the children were in the early paroxysmal stage. There was no opportunity for a prophylactic use of the vaccine during the incubation period. Those children in whom the paroxysmal stage had begun more than two weeks previous were excluded from the vaccination. The Bordet vaccine consists of a culture suspension of killed Bordet-Gengou bacilli in ampoules containing one cubic centimeter each. Six injections are supposed to be sufficient to check the whooping-cough, and they were administered at intervals of forty-eight hours. Since no special directions were given as to how the vaccine was to be administered, the author made some of the injections subcutaneously and some intramuscularly. Local and general reactions were entirely absent in either form of administration. A therapeutic effect of the vaccine was not noticeable.—*Monatsschrift für Kinderheilkunde.*

Cause of Death in Premature Births.—Creutzfeldt and Peiper describe the results of the histologic examination of the brains of seven premature infants, who all had shown before death serious respiratory disturbances. Six of them revealed no hemorrhages whatever in the brain stem, and in the seventh child there were small extravasations without reactions of the surrounding tissues, that is, so-called agonal hemorrhages. In this case there also was a slight hemorrhage from the right vena terminalis. These observations contradict the assumption of Ylppö, of Schwartz and of others who believed that the fatal respiratory disturbances in premature infants must be the result of cerebral hemorrhages. On the contrary, the observations prove that death is only the result of the immaturity of the central nervous system and of the resultant weakness of the respiratory center.—*Monatsschrift für Kinderheilkunde.*

Displacement of Heart in Pulmonary Tuberculosis.—From a review of the literature, Clayton concludes that the main causes of cardiac displacements in pulmonary tuberculosis are fibrosis and pleuropericardial adhesions, associated or not with a previous pleural effusion. Persistent afebrile tachycardia is not necessarily an indication of active disease and may be due to a displaced heart. When the roentgenogram shows a displaced heart, treatment should not be postponed till symptoms occur. A trial should first be given to breathing exercises, and then, if embarrassing symptoms develop, to phrenic evulsion. Displacements of the heart may possibly be prevented by the systematic practice of breathing exercises, begun as noticeable.—*Monatsschrift für Kinderheilkunde.*

California and Western Medicine

Owned and Published by the
CALIFORNIA MEDICAL ASSOCIATION
Official Organ of the California and Nevada Medical Associations
 FOUR FIFTY SUTTER, ROOM 2004, SAN FRANCISCO

Telephone Douglas 0062

EDITOR GEORGE H. KRESS
 Associate Editor for California EMMA W. POPE
 Associate Editor for Nevada HORACE J. BROWN

Advertising Representative for Northern California
 L. J. FLYNN, 544 Market Street, San Francisco
 Advertising Representative for Southern California
 A. A. BUTTERWORTH, 223 E. Fourth Street, Los Angeles

Subscription prices, \$5.00 (\$6.00 for foreign countries); single copies, 50 cents.

Volumes begin with the first of January and the first of July. Subscriptions may commence at any time.

Change of Address.—Request for change of address should give both the old and the new address. No change in any address on the mailing list will be made until such change is requested by county secretaries or by the member concerned.

Advertisements.—The journal is published on the seventh of the month. Advertising copy must be received not later than the 15th of the month preceding issue. Advertising rates will be sent on request.

Responsibility for Statements and Conclusions in Original Articles.—Authors are responsible for all statements, conclusions and methods of presenting their subjects. These may or may not be in harmony with the views of the editorial staff. It is aimed to permit authors to have as wide latitude as the general policy of the journal and the demands on its space may permit. The right to reduce or reject any article is always reserved.

Contributions—Exclusive Publication.—Articles are accepted for publication on condition that they are contributed solely to this journal.

Leaflet Regarding Rules of Publication.—California and Western Medicine has prepared a leaflet explaining its rules regarding publication. This leaflet gives suggestions on the preparation of manuscripts and of illustrations. It is suggested that contributors to this journal write to its office requesting a copy of this leaflet.

EDITORIALS*

SPLENDID WORK IN RECENT STATE ELECTIONS

A New Line of Activity in a State Election.—In the recent primary election the Los Angeles County Medical Association showed how the medical profession may make its influence felt in the selection of candidates to the legislature and other state offices. Careful preliminary planning and a loyal and hard-working group of interested members demonstrated how success could be attained in legitimate political activity.

The officers of the Association made an accurate survey of each of the thirty assembly districts of Los Angeles County, and then appointed special subcommittees or key-men for each of the assembly districts, sending special letters of information to all members in each district so that contacts with the key-men were made easy. In a preliminary announcement in the *Bulletin of the Los Angeles County Medical Association*, printed on August 18, Secretary Harry Wilson stated:

"The Association is interested, as any group of intelligent and patriotic citizens should be, in good government. The Association urges its members to

* Editorials on subjects of scientific and clinical interest, contributed by members of the California Medical Association, are printed in the Editorial Comments column, which follows.

support only those candidates who stand for good, constructive government. It asks its members to learn more about the candidates in their districts than they have been accustomed to learning in the past, and for a very definite reason. . . .

"The Association feels that good government is sufficient for the protection of the medical profession. It asks its members not only to vote intelligently, but to aid in the campaigns of such candidates they, as individuals, select as worthy." . . .

* * *

An Estimate of the Results.—After the primary election it was possible to estimate somewhat the effectiveness of the work which had been done, and it was most gratifying to note that the end-results fully warranted all the efforts that had been put forth. If the largest county medical unit of the California Medical Association was able to do these things in a metropolitan community, where political forces are many and difficult to overcome, then other county units should be able to get results equally efficient. There is yet time for every county medical unit of the California Medical Association to create an effective organization prior to the final elections in November. Officers and members of county societies who desire additional information on methods of procedure can secure the same through the California Medical Association Department of Public Relations, or from the Los Angeles County Medical Association. (For addresses, see index on front cover.) The open letter which Dr. William R. Molony, president of the Los Angeles County Medical Association, submitted to the Los Angeles County Medical Association after the primary election, was printed in the September 15 *Bulletin* and is as follows:

"Politically minded! Our critics have been saying so—these many years, that we have lacked this quality. But no more—at least for this year—can we be accused of being careless and asleep at the switch. The enthusiastic cooperation of the members of our Association during the recent primary campaign was most gratifying and is a source of added zest to the members and officers of the Los Angeles County Medical Association.

"The major credit must go to the group of earnest men who comprised the executive division of the Legislative Committee and who in turn were the 'key-men' in their respective assembly districts. In practically every district the nominees of both the Republican party and the Democratic party were men and women endorsed by the Los Angeles County Medical Association as candidates worthy of our support for good government, education, and public health.

"In those districts where a close contest is at hand for the final run-off in November, the 'key-men' and this committee will be on the job and will have the united support of our Association. We must now turn our attention to a careful examination and scrutiny of the candidates for the other elected officers—county, state, and federal. With the organization as now constituted, I believe that the same careful, earnest and enthusiastic action will be had as we have just witnessed.

"The Los Angeles County Medical Association has a membership of more than 2,100. Your influence is more widespread and penetrating than any other similar group in the county, and if you do not fully capitalize this asset it is in a sense your own fault. We should not exert our power for selfish purposes, but rather for good government, proper medical standards, and for the public health."

DOES LIFE SPAN INCREASE MEAN RACE STANDARD DECREASE?

Dean Lyon's Plea for Greater Attention to the Subject of Heredity.—Dean E. P. Lyon of the University of Minnesota Medical School presented in the September *Journal of the Association of American Medical Colleges* an interesting paper on "Heredity as a Subject in the Medical Curriculum." The recent White House Conference came in for comment because practically no mention was made of heredity as a factor in race betterment when the problems of child improvement were under discussion. Lyon's own views he expressed in the sentence, "Heredity and environment, Siamese twins, the one cannot exist without the other."

* * *

Doctor Myers' Interesting Comments.—In the discussion Dr. B. D. Myers of Indiana University aligned himself with Dean Lyon. The following startling sentences are some excerpts from Doctor Myers' remarks:

"I quote from Bianchi, the retired psychiatrist of the University of Naples, who says: 'In spite of the decrease in infant mortality; in spite of the increase in the average life rate, throughout the civilized world there is an increase in crime, in feeble-mindedness, and in insanity.'

"As physicians we have contributed to the decrease in infant mortality, and we have contributed to the increase of average life span. Just as directly, I think, we have contributed to the increase in feeble-mindedness, crime and insanity, by keeping alive individuals who, under conditions that existed 100 or 150 years ago, would have died. Under the law of survival of the fittest, they would have been killed.

"To my mind, one of the most important things in the world is the trend of our civilization. Those of you who are interested in state institutions know that taxation for the support of the feeble-minded and the insane and the criminal is growing so greatly as to threaten support of education. It is vastly in excess of the support of education. They are building great institutions which they call reformatories, and yet we go along without any effort to strike at the preventive side of this great problem that Dean Lyon spoke of.

"I think this is one of the most important problems we have to deal with. Indiana, the old Hoosier State, followed California and Minnesota in the passage of legislation a year ago providing for sterilization of the feeble-minded. We realize we will catch only a small number, perhaps, but we believe even that small number, considered from the standpoint of 150 years, becomes an important number."

* * *

California's Advance Step in Sterilization Laws. One more passage from Dean Lyon's paper may not be amiss since it makes mention of California's advance step in sterilization of human beings who should not propagate their kind.* In his closing discussion Dean Lyon expressed himself thus:

"In Minnesota about 500 feeble-minded women have been sterilized, and in California 6,000 or more, yet doctors talk about that as a drop in the bucket. I cannot see it that way. I am reminded of the story

of the so-called 'Disgenic Family,' which you will find in the journal, *Eugenics*, of about a year or a year and a half ago. I believe the family exists in Milwaukee. A grandmother of the present adults came there in 1850, undoubtedly a feeble-minded woman. At present, of the forty or fifty adults, there are so many paupers, criminals, epileptics, and other forms of degeneracy among them as to more than equal the total number of individuals. The article asserted that the cost of taking care of that family for the next five years would be \$50,000, and that the records show the expense would be doubled every five years. When you think of all that, and imagine the grandmother had been sterilized, you could not have called it a 'drop in the bucket.' You would rather have spoken of keeping the drop of infection out of the ocean of broth. According to that old illustration of the bacteriologists, you recall, if you should put one drop of bacteria in an ocean of broth, in five days the whole ocean would be polluted. Heredity works by reproduction, and reproduction works by geometric ratio. Hang that fact on the most prominent hook of your mental clothes-rack and wear it in the forefront of your thinking at every possible opportunity. . . .

"All right, then. I come to the conclusion that doctors know too little about heredity, think too little about it, act too little about it, are interested too little; and that brings me straight to this group. I think we ought to advocate and get permeating through the medical curriculum just as much knowledge of heredity and just as much mature opinion about its application as is possible. I have no program, but as I conceive it, somewhere the fundamental facts should be presented plainly and clearly to medical students, and the practical importance of the facts should be stressed. The rest should be left to the clinical teachers, who should emphasize and teach on it at every opportunity."

COMMENT ON THIS AND THAT

A County Medical Society Plan on Lower Costs for Citizens of Low Bracket Incomes.—An interesting experiment in county medical society service to lay citizens of the moderate or "white-collar" income class is outlined in a recent Associated Press dispatch. As such it will have a wide circulation in many newspapers throughout the country and will lead to considerable discussion in lay and medical circles. In California, plans very similar to that proposed by the Omaha-Douglas County Medical Association have been under discussion for some time, both in our state and our county medical organizations. Because the dispatch shows the general trend of efforts to bring about a betterment of conditions associated with professional service to citizens of modest means, especially through the agency of a county medical society, it is here reprinted:

DOCTOR BUDGET PLAN PROPOSED

Low-Salaried Man Would Pay by Year

Omaha, Sept. 12. (AP)—A plan whereby families with incomes of \$2700 or less may receive all needed medical attention for a yearly charge of 3 per cent of incomes will come before the Omaha-Douglas County Medical Association Tuesday for decision.

The proposal provides that all members of the medical society, hospitals and nurses offer their services to the group of families eligible for the "health policies." It is provided that these policies be cancellable only on grounds of "deceit" or "fraud." Size of the family would have no bearing on the fee.

An executive board composed of members of the society would handle the medical end of the plan, and the financial part would be handled by a finance

* The December 1931 *California and Western Medicine*, page 411, printed a paper on "Testicular Substance Implantation" by Dr. Leo L. Stanley of San Quentin Prison, whose previous work in sterilization experiments played so large a part in making possible the adoption of California's sterilization laws. See December, 1928, *California and Western Medicine*, page 369. Also this issue, page 283.

company. Members of the organization would be permitted to choose their own doctor, nurse and hospital, and each physician or surgeon would be required to list a schedule of fees for patients in the \$2700 class.

Total receipts and bills would be pooled each month. Each doctor would receive from the pool the same percentage of the amount he billed his patients as the pool received in receipts.

It is estimated by sponsors that 10,000 families would be signed as members of the plan within two years.—*Los Angeles Times*.

* * *

The Letters of the Late Dr. Joseph W. Cook.—The first of a series of three letters compiled from communications received from the late Dr. Joseph W. Cook, who died of typhus fever in Persia, and who in his residence in Riverside County was a former member of the California Medical Association, appeared in the September CALIFORNIA AND WESTERN MEDICINE. The current issue of CALIFORNIA AND WESTERN MEDICINE in its Lure of Medical History department prints the second letter.

Attention is called to these letters because they tell of services in a far-away land that should make many of us, who are in practice in our own land of comfort, wonder whether we have a legitimate right to feel abused when things seem to be going awry. The letters are fascinating. Do not fail to give yourself the pleasure and inspiration that will come from reading them.

* * *

Meyer's Essays on the History of Embryology. In referring to the letters by the late Doctor Cook, mention may be made also of the interesting series of eleven papers which have been contributed by Dr. A. W. Meyer of the department of anatomy of Stanford University Medical School, and which come to a close in this issue of CALIFORNIA AND WESTERN MEDICINE. We take it that many members of the California Medical Association who have followed this series of articles were delighted to have the opportunity of reviewing former readings on the subject, through the perusal of Doctor Meyer's admirable presentations. CALIFORNIA AND WESTERN MEDICINE was especially pleased to have this series of papers because they found so fitting a setting in the Lure of Medical History department in this JOURNAL; a name given to the department several years ago when its institution was first discussed by the editors with that beloved former member of the California profession, Dr. Adolph Barkan of San Francisco, who latterly has spent so much of his time in Switzerland.

* * *

A Physician Is Nominated Governor of Arizona.—California physicians should be interested in the success of B. B. Moeur, M. D., of Tempe, Arizona, who has become the Democratic nominee for Governor of Arizona. In Arizona the Democratic nomination is usually accepted as equivalent to election. The newspaper item printed below was a press report when the figures were

still incomplete, but the final totals gave Doctor Moeur a substantial lead. He has the good wishes of the medical profession of the Great Southwest for a successful administration. The clipping follows:

"Phoenix, Sept. 13. (AP)—Dr. B. B. Moeur, Tempe physician who is taking his first fling at politics, took a lead of nearly 3,900 votes over Governor Hunt, Arizona's 73-year-old Democratic chief executive, trying for an eighth term, as approximately one-third of the state voting precincts were reported tonight in today's primary. . . ."

Term of Conception in Women.—From careful studies, Ogino concludes that the term of conception as a rule lasts eight days. It extends from the nineteenth to the twelfth day before the succeeding menstruation. In the time between the twenty-fourth and twentieth day before the next menstruation, a conception is extremely rare, but there are as yet not sufficient observations to exclude the possibility of a conception during these four days; because of the rarity of conception during this period, however, it can be considered as practically sterile. But during the eleven days before the onset of the next menstruation conception is impossible. The author thinks that the determination of these factors will enable women who have to practice sexual abstinence or resort to contraceptives to do without these at least during some periods. For practical purposes it is advisable to determine the period of conception from the onset of the last menstruation. If the cycle lasts twenty-eight days the time of conception is between the tenth and seventeenth day after the onset of the last menstruation. If the cycle is longer or shorter than twenty-eight days, the term of conception is shifted by so many days backward or forward. Since there are comparatively few women in whom the menstrual cycle is always of the same duration, the formula for the time of conception has to be expressed as follows: Beginning of term of conception is ten plus (minimal duration of cycle minus twenty-eight days). End of term of conception is seventeen plus (maximal cycle minus twenty-eight days). The maximal and minimal duration of the cycle have to be determined from the last twelve series of cycles; to take into account only three or four cycles is not sufficient. However, since most women do not keep a record of their menstrual cycles, they have to give the maximal and minimal duration from memory. The formula mentioned is of value only for women in whom the menstrual cycle has a maximal fluctuation of not more than ten days. The greater the fluctuations, the lesser the value of the formula.—*Zentralblatt für Gynäkologie*.

Physiology of Drainage of Nasal Mucus.—Hilding calls attention to the fact that ciliary action and a protective, moving film of mucin over the surface are the chief mechanical factors involved in the drainage and defense of the nasal mucosa. The drainage, as activated by the cilia, is rapid, powerful and effective. Gravity plays a minor part. Traction, on the other hand, exerted on the film of mucin as on a net is an important factor in drainage. A complete exchange of the film of secretion over the surface takes place every ten or fifteen minutes in the more active regions in the nose, and about once an hour in the inactive regions. The drainage is directed backward with a strong tendency to flow toward the best protected areas, namely, the middle and inferior meatuses. The inactive interior third of the nose drains largely through these meatuses by means of traction. The sinuses (as represented by the frontal sinus of the dog) have definite and extremely efficient drainage that is spiral in direction. With these points in mind, the necessity of changing the point of view of treatment of nasal conditions from an anatomic to a physiologic one becomes apparent.—*Annals of Otol., Rhinol. and Laryngology*.

EDITORIAL COMMENT

This department of California and Western Medicine presents editorial comment by contributing members on items of medical progress, science and practice, and on topics from recent medical books or journals. An invitation is extended to every member of the California and Nevada Medical Associations to submit brief editorial discussions suitable for publication in this department. No presentation should be over five hundred words in length.

Lipoids, Proteins, and Emetin Intravenously for Peptic Ulcer.—A few years ago George B. Pitkin, M. D., of Bergenfield, New Jersey, introduced a mixture of procain, starch, and strychnin for "controllable spinal anesthesia." This mixture was marketed by the H. A. Metz Laboratories, Inc., a subsidiary of Drug, Inc., under the registered trade-marked name of "Spino-caine." The more critical observer must have wondered at the rationale of including strychnin, a dangerous spinal irritant, in a mixture proposed for subarachnoid injection.

Recently George B. Pitkin, M. D., has proposed a mixture of proteins, lipoids, and emetin for intravenous injection for the treatment of peptic ulcer.¹ Although meticulous directions for the administration of this mixture are offered by Pitkin the exact composition of the mixture is not stated, and no indication is given of the amount of emetin present in it. As may be imagined, Pitkin's report on the effects of this treatment in peptic ulcer is rather uncritical, and it is obvious that whatever beneficial results were obtained were probably due to the admitted use of what was essentially a Sippy diet along with this extraordinary intravenous medication.

The grounds upon which emetin are included in the mixture proposed are very vague and there is no real evidence to indicate that this very dangerous alkaloid is of any value at all in peptic ulcer.

The purpose of this comment is to call attention to the danger of attempting to treat such a chronic condition as peptic ulcer by the repeated intravenous injection of unknown amounts of emetin. It has been shown by California workers that emetin is very slowly excreted, that it is accumulative in effect and that toxic symptoms are liable to be encountered in man whenever a total dosage of ten milligrams per kilogram is exceeded, even over a relatively long period of administration.² That the dangers of the intravenous use of emetin is common knowledge is indicated by the editorial reply to a query from one of Pitkin's New Jersey colleagues,³ which appeared in the *Journal of the American Medical Association*.

Pitkin's mixture of protein, lipoids, and emetin for intravenous injection for the treatment of peptic ulcer is now marketed by the H. A. Metz Laboratories, Inc., a subsidiary of Drug, Inc., under

the registered trade-marked name of "Synodal," which is stated to be a "brand of Emetabol." The literature supplied by this company regarding the mixture fails to indicate the amount of emetin in the mixture, following the example set by Pitkin in his publication. In view of the well-known dangers of the intravenous use of emetin it would seem that the least this company could do in exploiting Pitkin's work would be to state the amount of emetin in the mixture offered for sale. The burden of proof in this matter remains upon Pitkin and upon the company marketing his proposed mixture. Until reasonable proof is offered that this remarkable treatment is really effective in peptic ulcer, and until the manufacturers indicate the amount of emetin in the mixture offered for intravenous use, it would seem wise for physicians generally to show some of that skepticism for the lack of which the profession is sometimes so notorious.

Department of Pharmacology, University of California.

C. D. LEAKE,
San Francisco.

Mussels and Clams: A Seasonal Quarantine—Bicarbonate of Soda as a Factor in the Prevention of Mussel Poisoning.—Each year, since 1927, the California Board of Public Health has established a quarantine on mussels during the summer months when these shellfish are toxic. Recently a similar quarantine has been placed upon clams because of a toxic condition that has been discovered in them. These quarantines, naturally, have resulted in protests from some of the individuals who are engaged in the commercial distribution of clams and mussels. It would seem to be in order, therefore, that the essential facts relative to the need for the exercise of quarantine measures be enumerated. Since the author of this article has been engaged in research work connected with the investigation of clams and mussels, his familiarity with every detail of the problem may entitle him to discuss the relationship between the scientific investigations and the practical measures that are concerned with the solutions of the many problems associated with the prevention of shellfish poisonings.

In 1927 an outbreak of mussel poisoning involving more than 100 cases constituted almost a catastrophe. Most of these cases occurred in San Francisco and its immediate vicinity. The California Board of Public Health established a quarantine on these shellfish shortly after the first cases had been reported and a scientific investigation was undertaken immediately by the Hooper Foundation for Medical Research of the Uni-

¹ Pitkin, George B.: A New Treatment of Peptic Ulcer, *Am. J. Surg.*, N. S., 12:466 (June), 1931.

² Anderson, Hamilton H.: The Oral Toxicity of Emetin Hydrochlorid, *Am. J. Trop. Med.*, 10:249 (July), 1930. Rinehart, J. F., and Anderson, H. H.: Effect of Emetin on Cardiac Muscle, *Arch. Path.*, 11:546 (April), 1931.

³ J. A. M. A., 97:1096 (October 10), 1931.

versity of California. This investigation has been carried on during each of the years which followed and is still in progress. Based upon findings which have been made available through this investigation the California Board of Public Health has established a permanent quarantine upon mussels which is in force during the summer months of each year.

No cases of mussel poisoning were reported in 1928, but in 1929 fifty-five cases occurred. Protests against the quarantine measures were made by some of those who are interested commercially and blame was placed upon the inexperience of individuals who gather and prepare mussels for their tables. In 1930 only one case of shellfish poisoning was reported, and in 1931 there were but two cases. Laboratory tests performed during both of these years showed a remarkable toxicity to animals, however. It was apparent that many individuals had eaten toxic mussels at this time and apparently without any physical harm. It became evident, also, that mussels and clams varied in toxicity and the toxicity did not reach a height every year which might render them dangerous for human consumption. The advisability of the establishment of a permanent quarantine on shellfish was questioned, but the appearance of forty-two cases during 1932 demonstrated the necessity of the quarantine. The further discussion in this paper is concerned with the practical reasons which have necessitated this action.

During the toxic season of 1932 the concentration of the poison dangerous for consumption by human beings could be determined for the first time with sufficient certainty. A chemical investigation of the poison has also revealed facts which should become of common knowledge. This paper is not intended to present an outline of the research work that has been done, but it is intended to point out certain facts which should be considered in establishing quarantine measures during coming years.

By careful observation it has been determined that individuals who gather shellfish may be divided into two groups: first, that comprising individuals who know that it is dangerous to use shellfish which are gathered at certain seasons of the year but who do not make use of the information; second, the group of individuals who do not know of the danger which lies in the consumption of these shellfish at certain seasons but who would pay attention to warnings. From personal experience it is known that the second group of individuals, those who have no information on the subject, is the larger group. Little can be done to determine the actions of the first group, but the second group might be brought under control through a more intensive campaign of education. Newspaper publicity is valuable, but there might be more action in issuing warnings at the largest and most frequently visited mussel-beds along the coast, from Monterey to Mendocino counties. Perhaps the placement of warning signs might be of some value. Such procedure might be expensive, but it certainly would not cost more

than the hospital treatment of patients who may be made ill through the consumption of poisonous shellfish.

Hooper Foundation for Medical Research.

H. MULLER, Ph.D.
San Francisco.

(To be concluded)

Effects of Boreome Occupations on Health.—In the annual report of the chief inspector of factories, the senior medical inspector, Dr. J. C. Bridge, calls attention to the beneficial effect of manual work on mind and body and emphasizes the importance of maintaining interest in work. He describes the uninterested worker as an industrial invalid. The pleasure of the craftsman is being crushed by the steady increase in mechanized processes, the result of which is seen in the tendency to a rise in sickness rates for what are termed "nervous disabilities" for want of a better name. Repetition undoubtedly creates a weariness not expressed in physical terms but in a desire by the worker for temporary relief from the enforced boredom of occupation in which the mind is left partially or entirely unoccupied. This fact must be recognized for the understanding of sickness records and absenteeism in the industrial population. Vastly more days are being lost from vague, ill-defined but no doubt real disability due to ennui than from all the recognized diseases together. How is this problem to be dealt with? More interest in processes that are themselves dull must be created. Piece instead of time rates, promotion for efficiency, bonuses of holidays for unbroken time, and rest periods with change of posture and attention are a few of the suggestions for this growing problem.—*London News Letter in Journal of the American Medical Association*, Vol. 29, No. 5.

Doctor Embargo.—"Professional birth control" is the current cry of United States Medicine in its war against surplus doctors (*Time*, September 12). One method of control is for United States medical schools to impede admittance of freshmen. For example, more than 600 applicants last week wanted to enter Western Reserve Medical School. Only 75 got in. More than 700 applied at McGill; only 100 were admitted. Seven thousand of 13,000 candidates for all United States medical schools were refused admittance this year.

Another method of control is for examining boards to fail graduates of foreign medical schools. During the past five years only 47.1 per cent of applying foreign graduates succeeded in getting State licenses.

Last week New York State's Board of Medical Examiners, one of the strictest in the land, shut New York's door tighter than ever. Only schools whose graduates have any chance to be examined in New York are the governmental medical schools of Austria, Germany, Holland, Hungary, the Scandinavian countries, England, Ireland, and Scotland.*

Also privileged are Canada's great universities—Alberta, Toronto, Queen's, Western Ontario, Dalhousie, Laval, McGill.

Hard hit were some 1,500 United States students last week en route for European medical education. They were the more enterprising of the 7,000 students refused United States medical education this autumn. But, promised Dr. Harold Rypins, secretary of the New York board, the 1,500 will not forever be stigmatized with medical illegitimacy, if next year they return to the United States and succeed in wangling admittance to United States schools.

Hard hit also are steamship lines, to which the transport of students in these times is a comparatively big business.—*Time*, September 26, 1932.

* But not Scotland's Royal Colleges, Anderson College of Medicine, St. Mungo's College.

C. M. A. DEPARTMENT OF PUBLIC RELATIONS

An open forum for progress notes on the department's activities, and for brief discussions on medical economics. Correspondence and suggestions invited. Address Walter M. Dickie, Room 2039, Four Fifty Sutter Street, San Francisco. This column is conducted by the Director of the Department.

Some Conclusions on Furnishing Medical Care on a Periodic Payment Plan

The Committee on the Cost of Medical Care, in 1929, invited the National Bureau of Economic Research, Inc., to make a survey of the United States to determine to what extent the people were using the principle of insurance in order to secure medical and hospital care. This survey was made under the direction of Mr. Pierce Williams and published under the title of "The Purchase of Medical Care Through Fixed Periodic Payment."

The following is a partial summary of the findings of the survey:

MEDICAL INSURANCE IN THE URBAN COMMUNITY

In considering the possible lines of development of medical care, insurance in communities which already have a sufficient number of medical practitioners and reasonably adequate number of hospital beds, three indispensable elements should be kept in mind. These are: (1) a number of individuals desirous of assuring medical care to themselves, and willing to make the requisite fixed periodic payments to maintain the fund out of which the cost of medical service actually rendered is paid; (2) a properly constituted organization to (a) collect the periodic payments from those desiring the protection, and (b) remunerate practitioners and pay hospitals for medical care provided; (3) a sufficient number of doctors, surgeons and other practitioners willing to provide service on the basis of the changed relationship between physician and patient which a plan of medical care insurance almost inevitably creates. To what extent do these three elements in medical care insurance already exist in the typical American city?

FACTORS IN EXTENSION OF VOLUNTARY INSURANCE

Whatever the future course of developments with regard to compulsory sickness insurance, the way lies open for interested groups to encourage the adoption of the fixed payment method of purchasing medical care throughout the United States. The group which appears to lend itself most conveniently to the administration of sickness insurance is the group of employees of a particular industrial, financial or mercantile establishment. The local trade union is another type of group which experience has demonstrated is suitable for the purpose of medical care insurance. Other types of organized groups, professional, fraternal, social, existing in urban communities, are equally capable of being utilized for the purpose of voluntary medical insurance. Group disability insurance, as the name indicates, is written by life insurance companies to employers for the benefit of their employees, and utilizes the entire body of employees of a particular concern as the unit of insurance against non-compensable disability. Likewise, a policy issued to an employer to secure his liability under a state workmen's compensation law makes use of the entire group of employees for purposes of insuring them against industrial accident. One advantage of some form of organized group over individuals insuring singly is in the matter of expense. Experience with commercial health and accident insurance has demonstrated that it is relatively costly for the company to acquire and hold its business when clients have to be solicited one by one. The more the insurance carrier has to expend in

getting and holding policyholders, the less there is available for benefits.

TYPES OF VOLUNTARY INSURANCE ORGANIZATIONS

The existing types of medical and hospital insurance in the United States do not afford much experience to help in deciding what type of voluntary organization for collecting the periodic payments and arranging for medical service would be most satisfactory. In the mining and lumber industries, the employing concern itself collects the periodic contributions and administers the medical care fund. Few of these company plans provide for any participation by employees in the administration. The trunk-line railroad plans of hospital care, on the other hand, are administered by associations governed jointly by employees and railroad officials. Employee mutual benefit associations paying cash sickness benefit exist in many industrial establishments. Although few of these associations provide medical and hospital care "in kind" as a benefit of membership, there would seem to be no inherent reason why more of them should not do so, assuming they can secure the cooperation of medical practitioners.

The possibility that commercial insurance companies now issuing "income protection" accident and health insurance may at some time in the future find themselves in position to offer policies which undertake to provide medical and hospital care "in kind" should not be ignored. In case this development comes about, a new form of group sickness insurance paralleling group industrial accident insurance, would be available. There would seem to be no reason why an employee mutual benefit association, a local trade union, or some other organized group, should not enter into an insurance arrangement with a commercial insurance company authorized to sell medical service contracts as well as cash benefit policies. It must be recorded, however, that the medical benefit corporations of California have so far had little success in writing group medical and hospital service contracts to employee beneficial associations. The incorporated hospital associations which operate in Washington and Oregon are examples of a type of commercial organizations providing what is in effect group medical and hospital insurance for industrial employees.

INFLUENCE OF INDUSTRIAL HEALTH PROGRAMS ON EMPLOYEE GROUP MEDICAL INSURANCE

The extent to which existing employee mutual benefit associations may broaden their present cash benefits to include the provision of medical and hospital care "in kind" for disease and injury not already covered by the state workmen's compensation law, may be influenced by the future development of industrial hygiene. In many large industrial plants, employee health service, aiming at the prevention of accidents and increased efficiency, is carried on wholly at the expense of the employer. In most instances, the service provided by the employer does not follow the employee beyond the walls of the plant. However, the attitude of employers toward the provision of medical and hospital care to employees for non-industrial injury and disease may in turn be influenced by the trend of workmen's compensation legislation with respect to occupational disease. A gradual broadening of the scope of compensation to include more and more types of disease is noted by persons

closely in touch with this field of insurance. To some extent this broadening of scope is due to legislative enactment; to a greater degree it is due to day-by-day interpretation of the law by state workmen's compensation commissions. To the extent that the range of diseases compensable under state laws is widened and the employer's responsibility for providing medical care automatically increased, the range of diseases for which the individual must purchase medical care on his own account is correspondingly narrowed. It is within the bounds of possibility that more and more large concerns with well-organized medical departments may make the services of plant physicians and nurses available to employees in their homes, in case of non-compensable disability. Workmen's compensation laws of many states specifically authorize agreements between employers and employees for the provision of benefits additional to those conferred on the employees by the compensation act itself. Medical and hospital treatment arising out of non-compensable injury and disease are among the benefits envisaged. The agreement may provide for payment of the entire expense of the service by the employees, or for the sharing of the expense between employees and employers.

THE MEDICAL PROFESSION AND INSURANCE PRACTICE

It remains only to discuss briefly the third essential element in any successful plan of medical insurance, viz., the medical practitioner. The attitude of the rank and file of the American medical profession towards medical insurance constitutes the crux of the problem. It is not too strong a statement that the future of fixed payment medical service in the United States is largely in their hands. Will the average practitioner lend his cooperation in working out a mutually satisfactory basis for the provision of medical and hospital care to persons desirous of purchasing service on the insurance plan? It is perhaps not necessary again to emphasize that the insurance plan of providing medical service fundamentally alters the traditional relation between the physician and the patient. Instead of receiving payment directly from the person to whom the service is rendered, the physician is remunerated by the organization to which the fixed periodic payment has been made. This is equally true whether the scheme of insurance be voluntary or compulsory. The physician may be employed by the insurance organization on a salary; he may be retained by it under a contract to render service to members of the insured group at stipulated fees; or he may be under agreement to perform service at a fixed amount per person per month. "Contract practice" as defined by the American Medical Association is "the carrying out of an agreement between a physician or group of physicians as principals or agents, and a corporation, organization or individual, to furnish partial or full medical services to a group or class of individuals for a definite sum or for a fixed rate per capita."

It is the necessity for medical cooperation if a plan of medical or hospital insurance is to succeed that gives special significance to the fixed payment medical service which is being offered by a number of private group clinics in various cities of the country. Increase in the number of private group clinics is evidence of recognition on the part of the medical profession of the need for an improved form of organization for rendering efficient medical service. In their endeavor to adapt the group form of medical practice to the plan of group purchase through fixed periodic payment, medical men are supplying valuable experience by which further developments in the field of medical insurance can be tested.

Another experiment in group medical organizations, involving a transformation in the traditional economic basis of medical service is the plan of clinics operated by the county medical society. In order to relieve the individual physician of the responsibility and expense of rendering free service, it has been pro-

posed that the county medical society should organize and maintain a clinic, where patients unable to pay for service received, would be treated by members of the medical society assigned in rotation to clinic duty. This experimental application of the group practice idea may also lend itself to the rendering of service on the basis of a fixed periodic payment.

The growing interest of nonprofit community hospitals in the possibility of offering care on a fixed payment basis is further evidence of the desire of physicians to lend their cooperation in testing the feasibility of the insurance principle. However, the number of community hospitals at present offering care on this basis is too small to justify any generalization as to future possibilities. It should be mentioned that the Judicial Council of the American Medical Association has recommended caution on the part of non-profit hospitals in undertaking to provide treatment on the basis of fixed periodic payment.

Whatever the lines of experiment that may be pursued in the attempt to provide medical care to the American people at a cost within the reach of the masses, the cooperation of the medical profession is essential.

More Than \$2,000,000 Turned Over to Workers in Two Years.—Following are some facts concerning the distribution of California monies:

1. The Division of Labor Statistics and Law Enforcement collected \$2,025,409 in unpaid wages during the biennial period ended June 30, 1932, compared to \$2,134,783 secured in the previous biennium, a drop of \$109,374, or 5 per cent. This decrease is negligible when it is considered that pay rolls in the state, for the period covered by the last biennium, dropped over 45 per cent, and that general prevailing business conditions mitigated against success.

2. The sum of \$2,025,409 involved 37,001 wage claims. The average amount per claimant was \$54.74. The collections during the last biennium were the largest in the history of the Division, with the exception of the total credited to the two years ended June 30, 1930. Practically all the claims were settled without resort to court action, thus saving both employers and workers time and money, and there is no fee of any kind charged to wage-earners by the State of California.

3. In adjusting these claims, the Division was instrumental in adding \$2,025,409 to the purchasing power of the workers of the state, since in nearly all cases the wages would not have been collected but for the assistance of state officials.—California State Department of Industrial Relations. Report to Governor's Council, August, 1932.

An Injured Man's Care Over Nearly Fifteen Years Costs \$43,227.40.—The references in previous reports to the unusually heavy surgical and hospital costs for the care of one man under workmen's compensation aroused widespread interest, especially in medical circles. Jack Schaub was injured on December 13, 1917, while employed by the Lloyd Company of Petaluma. The learned men of the healing profession said that Mr. Schaub could not live six months. A fighting heart and a determined will kept him alive almost fifteen years, much to the amazement of the doctors who have cared for him. Paralyzed from the waist down, he was practically bedridden since his injury, and always confined in the hospital, up to the date of his death, August 17, 1932. The hospital, nursing and doctors' services reached a total of \$43,227.40, which undoubtedly sets the record for the cost of medical care for an industrial injury under the Workmen's Compensation Act of California, and probably for all other similar statutes. The amount named was divided as follows: Hospital, \$24,943.94; nursing services, \$14,435; doctors' fees, \$3,848.46.—California State Department of Industrial Relations. Report to Governor's Council, August, 1932.

CANCER COMMISSION OF THE C. M. A.

The Cancer Commission was brought into being by the House of Delegates of the California Medical Association to aid in the furtherance of all efforts to combat cancer. The roster of officers and the central office of the Commission to which communications may be sent is printed in this issue of California and Western Medicine (see front cover directory).

This column is conducted by the Secretaries of the Commission.

REPORT OF THE BREAST TUMORS COMMITTEE*

What Constitutes Proper Treatment

II†

RADIOTHERAPY

1. It is not justifiable to depend upon radium and x-ray therapy in early breast cancer, since it is doubtful if radiation ever permanently cures breast cancer and since it is known that radical surgery does furnish a definite percentage of permanent cures.

Exceptions:

(a) It may be advised when patient refuses surgery.
(b) Where operation would be hazardous in cardiac, nephritic and pulmonary disease.

(c) A small group of extremely malignant growths as proved by biopsy (*e. g.*, inflammatory cancer in young women).

2. Is preoperative radiation indicated and does it increase the number of five-year nonrecurrences; and is the necessary delay in awaiting surgery a contraindication? Replies were as follows:

The weight of evidence in the literature at present is apparently to the effect that radiation adds to the number of patients well and apparently free of cancer five years after operation. The apparent improvement in statistics in five-year results varies from little or nothing (Greenough), five per cent (Memorial Hospital), marked increase (Stockholm) to double the number of five year cures (Bruttin, Lausanne). In general the procedure favored by the clinics claiming improvement in results includes both preoperative and postoperative radiation. It is the belief of the majority of the committee that, of the two, preoperative radiation is of more value than postoperative, so much so that some members advise radiation therapy before the exploration of any lump. It is possible that the answer will be found in technique now being tried at the Memorial Hospital (reported by Lee and others in *Archives of Surgery* for March, 1932) combining external radiation by x-ray or radium pack with interstitial irradiation by radon seeds.

3. As to the technique, whether large concentrated doses or small repeated doses should be given, it is deemed advisable to leave the entire problem as to treatment to the radiologist.

No statement can apparently be made at the present time as to the proper length of time between x-ray and operation. There are in general three methods possible.

(a) Radiation followed by operation within a very few days (*i. e.*, before reaction).

(b) Radiation with operation delayed until after subsidence of reaction (three to six weeks).

(c) Radiation, carried on until no further decrease in size of tumor is observed, even to several months, before operation is performed.

The committee believes that the question of which method is best cannot yet be settled by adequate statistical experience.

In the postoperative plan of treatment there does not seem to be any occasion or indication for the routine use of radium, as:

(a) There exists too wide an area to be treated.

(b) Where known cancer is left it is usually high in axillary space or in the supraclavicular region where, if used, a possible necrosis of the walls of the large vessels, or troublesome, persisting neuritis may follow.

Exception:

1. The use of radon seeds (interstitial method) in upper intercostal spaces when cancer is found in the upper breast quadrant (Handley).

Postoperative roentgen radiation should be carried out routinely.

The dosage and areas to be treated should be left entirely to the judgment of the trained radiologist.

It is obvious that the care of breast cancer is not complete until the patient has been followed to the conclusion of her case.

SUMMARY

1. Women should be taught that a painless lump is the first symptom of the vast majority of breast cancers.

2. Examination of breasts must be conducted with the greatest gentleness to avoid increasing metastases from manipulation.

3. In most early cases the diagnosis between cancer lumps and benign lumps cannot be made clinically but must be made by exploration.

4. In exploration:

(a) No breast should be explored without frozen section facilities and competent pathologist available.

(b) Cancer having been diagnosed by exploration, the exploratory wound should be closed after cauterization (heat or chemical) and the field, instruments and operating team re-prepared.

(c) Cancer having been diagnosed, the complete operation must be performed at the same sitting. Delay between biopsy and radical operation greatly reduces the chances of cure.

5. The minimum radical operation for breast cancer includes: Removal in one mass of entire breast, overlying skin, a still wider zone of deep fascia (from clavicle to epigastrium, from sternum to latissimus dorsi), both pectoral muscles, and the axillary gland bearing fat.

6. At the present time it is believed that preoperative x-ray therapy and probably postoperative, tend to increase the number of five-year cures; but a final statement of the place of radiation in the treatment of breast cancer cannot yet be made. Of the two courses of treatment, that given preoperatively is believed to be the most valuable.

* * *

The chairman and secretary of this committee appreciate in full the cooperation given by its members. This report expresses the opinions of the majority, although minority opinions—but few in number—are also included.

Respectfully submitted,

COMMITTEE ON BREAST TUMORS.

Lemuel P. Adams, Chairman	Andrew S. Lobingier
George D. Maner, Secretary	Orville N. Meland
Lawrence Chaffin	John M. Rehfsch
Charles M. Fox	G. Y. Rusk
Verne C. Hunt	Clarence G. Toland
A. R. Kilgore	

* Concerning work and reports of Cancer Commission of the California Medical Association, see August California and Western Medicine, pages 124 and 131.

†Part I of this report was printed in the September California and Western Medicine. (See page 208.)

STATE MEDICAL ASSOCIATIONS

CALIFORNIA MEDICAL ASSOCIATION*

JOSEPH M. KING.....President
 GEORGE G. REINLE.....President-Elect
 EMMA W. POPE.....Secretary-Treasurer

OFFICIAL NOTICE

Will You Help.—The present financial need of a sick and incapacitated member of the California Medical Association caused the Council to authorize publication of a statement of the fact in the JOURNAL.

This was done with the hope that the aggregate of small contributions of many members might to some extent mitigate the distress that necessarily follows in the wake of total financial loss of all savings, and a loss of earning capacity by reason of sickness.

This is a sad case. Any member who wishes to help may do so by sending his offering to Dr. Robert A. Peers, Colfax, Councilor for the Eighth District.

EXTENSION LECTURE PROGRAM †

Available Educational Film.—The department of visual instruction of the University of California at Berkeley have available a motion picture produced by the Castle Films of New York City entitled "The Relation of Nutrition to Dental Health." Arrangements for the showing of this film may be made with Mr. Robert S. Johnson, University of California, Berkeley.

1. INDEX TO SUBJECTS

Dermatology and Syphilology

Alderson, Harry E. Soiland, Albert
 Lunsford, C. J. Templeton, H. J.
 Way, Stuart C.

Eye, Ear, Nose, and Throat

Barkan, Hans

General Medicine

du Bray, Ernest Piness, George
 Hurwitz, Samuel H. Pulford, D. Schuyler
 Kruse, Fred H. Read, J. Marion
 Lisser, Hans Rowe, Albert H.
 Miller, Hyman Shepardson, H. Clare

(a) Cardiology

Kilgore, Eugene S. Langley, Robert W.
 Newman, W. W. Sampson, John J.
 Spiro, Harry

(b) History of Medicine

Codellas, Pan S. Larkey, Sanford V.

(c) Tropical Medicine

Reed, Alfred C.

(d) Tuberculosis

Pierson, Philip H. Rosencrantz, Esther
 Pindell, M. L. Trimble, Harold G.
 Voorsanger, William C.

General Surgery

Bell, Leo P. Mentzer, Stanley H.
 Brooks, LeRoy Shephard, John Hunt
 Gehrels, Ernst Soiland, Albert
 Yoell, Rodney A.

(a) Brain and Spinal Cord Surgery

Gerstle, Mark

(b) Neurological Surgery

Glaser, Mark Albert

(c) Plastic Surgery

Barnes, H. O. O'Connor, Gerald B.
 Kiskadden, W. S. Pierce, George Warren
 Updegraff, H. L.

(d) Thoracic Surgery

Brown, A. Lincoln.

Neuropsychiatry

Gerstle, Mark Mack, C. W.
 Smith, Sydney K.

Orthopedics

Haas, S. L. Gottlieb, A.

Pathology

Kellogg, W. H.

Pediatrics

Sweet, Clifford

Pharmacology and Chemistry

Leake, Chauncey

Radiology

Pindell, M. L. Soiland, Albert

Urology

Ferrier, Paul A. Stevens, William E.
 Redewill, Francis S. Wesson, Miley B.

2. INDEX OF SPEAKERS

Harry E. Alderson, M. D., and Stuart C. Way, M. D.,
 320 Medico-Dental Building, 490 Post Street,
 San Francisco.

1. Will hold a clinic of specially selected local skin or syphilis cases.
2. Motion picture demonstration of syphilides and dermatoses of general interest.
3. Prognosis and treatment of skin cancer and pre-epitheliomatous conditions.

H. O. Barnes, M. D., 512 Pacific National Building,
 Los Angeles.

1. Plastic Surgery of the Face. (Lantern slides.)
2. Plastic Surgery of the Breast. (Lantern slides.)
3. Plastic Surgery of the Body. (Lantern slides.)

Hans Barkan, M. D., Stanford University Hospital,
 San Francisco.

1. Indications for Strabismus Operations and Methods of Operating.
2. Problems in Cataract Extractions.
3. Highways and Byways in Ophthalmology—An Historical Sketch.

Leo P. Bell, M. D., Woodland Clinic, Woodland.

1. Surgery of Stomach and Duodenum.
2. Surgery of the Spleen.
3. Surgery of Large Bowel.

LeRoy Brooks, M. D., 731 Medico-Dental Building,
 490 Post Street, San Francisco.

1. Children's Surgery.
2. Acute Intestinal Obstruction.
3. Surgical Treatment of Goiter.

A. Lincoln Brown, M. D., Medico-Dental Building,
 490 Post Street, San Francisco.

1. The Surgery of Pulmonary Tuberculosis. (Lantern slides.)
2. Postoperative Pulmonary Complications—Atelectasis. (Lantern slides.)
3. Operation for Pulmonary Embolectomy. (Motion pictures.)

* For a complete list of general officers, of standing committees, of section officers, and of executive officers of the component county societies, see index reference on the front cover, under Miscellany.

† Additional names of speakers and topics received too late for inclusion in this issue of California and Western Medicine will be added to the published Extension Lecture Program reprints.

Pan S. Codellas, M. D., Schroth Building, 240 Stockton Street, San Francisco.

1. The Imperial Physicians of Byzantium.
2. Nosography of the Pre-Germ Era—Description of Diseases from Medical and Nonmedical Authors.
3. The Ability of Ancient Physicians to Cope with the Morbidity of Their Times.

Ernest S. du Bray, M. D., Medico-Dental Building, 490 Post Street, San Francisco.

1. The Management of Diabetes Mellitus and Its Major Complications.
2. Criteria for Prognosis in Vascular Hypertension.
3. Insulin and Its Use for Fattening the Malnourished.

Paul A. Ferrier, M. D., Professional Building, 65 North Madison Avenue, Pasadena.

1. Present Status of Prostatic Resection.
2. Care of Prostate by General Practitioner.

Ernst Gehrels, M. D., 734 Medico-Dental Building, 490 Post Street, San Francisco.

1. Radical Surgery in Cancer of the Gastro-Intestinal Tract.
2. Surgery of Gastric and Duodenal Ulcer.
3. Cancer of Rectum—Radical Operation with Special Reference to Sphincter Preservation.

Mark Gerstle, M. D., Union Square Building, 350 Post Street, San Francisco.

1. Spontaneous Subarachnoid Hemorrhage.
2. Multiple Sclerosis—Newer Aspects.
3. Brain Abscess—Brain Tumors—Spinal-Cord Tumors.

Mark Albert Glaser, M. D., 511 South Serrano Street, Los Angeles.

1. Surgical Methods for the Relief of Pain.
2. Head Injuries.
3. Brain Tumors—Diagnosis and Treatment.

A. Gottlieb, M. D., 1240 Roosevelt Building, 727 West Seventh Street, Los Angeles.

1. The Painful Foot. (Lantern slides.)
2. Obscure Foot Lesions. (Lantern slides.)

Sylvan L. Haas, M. D., 450 Sutter Street, San Francisco.

1. Surgical Treatment of Tuberculosis of the Joints.
2. Treatment of Congenital Dislocation at the Hip Joint.
3. Treatment of Paralysis Following Anterior Poliomyelitis.

Samuel H. Hurwitz, M. D., 1214 Medico-Dental Building, 490 Post Street, San Francisco.

1. The Sinus Factor in Asthma.
2. The Use and Abuse of Drugs in Asthma.
3. The Diagnosis and Treatment of Asthma Due to Infection and Allergy.

W. H. Kellogg, M. D., State Hygienic Laboratory, Berkeley.

1. The Approval of Laboratories by the State Department of Public Health.
2. The Prevention of Diphtheria.
3. The Service Provided by the State Laboratories for Physicians in Rural Districts.

Eugene S. Kilgore, M. D., 724 Medico-Dental Building, 490 Post Street, San Francisco.

1. Newer Concepts in the Diagnosis and Treatment of Coronary Artery Disease.

William S. Kiskadden, M. D., Wilshire Medical Building, 1930 Wilshire Boulevard, Los Angeles.

1. Treatment of Cleft Palate and Lip. (Lantern slides.)
2. General Plastic and Reconstructive Surgery. (Films and slides.)

Fred H. Kruse, M. D., Fitzhugh Building, 384 Post Street, San Francisco.

1. Peptic Ulcer—Etiology, Medical Aspects and Treatment.
2. Functional Colonic Disorders—Irritable and Redundant Colons.
3. Jaundice—Clinical Differentiations, Studies of Liver Function and Relationship to Gall-Bladder Disease.

Robert W. Langley, M. D., Wilshire Medical Building, 1930 Wilshire Boulevard, Los Angeles.

1. Cardiac Problems—Their Occurrence in Surgery, Pregnancy, and Acute Infections.
2. The Diagnosis of Coronary Disease. (Lantern slides.)
3. The Diagnosis and Treatment of Cardiac Irregularities.

Sanford V. Larkey, M. D., University of California Medical School, San Francisco.

1. Primitive Medicine.
2. Superstition and Science.
3. Vesalius and Revival of Anatomy.

Chauncey D. Leake, Ph. D., University of California Medical School, San Francisco.

1. Current Aspects of Anesthesia.
2. The Historical Development of Anesthesia.
3. The Chemotherapy of Amebiasis.

H. Lisser, M. D., 240 Fitzhugh Building, 384 Post Street, San Francisco.

1. Disturbances of Adrenal Function—Diagnosis and Treatment. (Lantern slides.)
2. The Newer Pituitary, Ovarian, and Placental Sex Hormones.
3. The Usefulness of Roentgenograms and Roentgen Therapy in Endocrine Diagnosis and Treatment.

C. J. Lunsford, M. D.

(See topics under H. J. Templeton, M. D.)

C. W. Mack, M. D., The Livermore Sanitarium, Livermore.

1. Treatment of Neurosyphilis.
2. Treatment of Functional Mental Diseases.

W. W. Newman, M. D.

(See topics under Harry Spiro, M. D.)

Stanley H. Mentzer, M. D., 450 Sutter Street, San Francisco.

1. The Silent Though Acute Gall-Bladder. (Lantern slides.)
2. The Importance of the History in Cholecystitis. (Lantern slides.)
3. Gall-Stones—A Clinical and Surgical Consideration. (Lantern slides.)

Hyman Miller, M. D.

(See topics under George Piness, M. D.)

Gerald B. O'Connor, M. D.

(See topics under George Warren Pierce, M. D.)

George Warren Pierce, M. D., and Gerald Brown O'Connor, M. D., 723 Medico-Dental Building, 490 Post Street, San Francisco.

1. Treatment of Burns and Burn Scars.
2. The Management of Cleft Palates and Harelips.
3. The Possibilities of Reconstruction Surgery.

Philip H. Pierson, M. D., 1228 Medico-Dental Building, 490 Post Street, San Francisco.

1. Differential Diagnosis Between Tuberculosis and Other Pulmonary Disease.
2. Discussion of a Series of Roentgenograms and Histories of Pulmonary Cases.
3. What Laboratory Aids Are Beneficial in the Diagnosis and Treatment of Pulmonary Tuberculosis.

M. L. Pindell, M. D., Los Angeles County Health Department, Los Angeles.

1. Tuberculosis Program in Los Angeles County.
2. Childhood Tuberculosis.

George Piness, M. D., and Hyman Miller, M. D., 608 Medical Office Building, 1136 West Sixth Street, Los Angeles.

1. Practical Suggestions as to the Care of Allergic Patients in General Practice.
2. Allergy in Infancy and Childhood.
3. Hay Fever in California—Its Problems and Management.

D. Schuyler Pulford, M. D., 926 J Street, Sacramento.

1. The Present Status of the Treatment of Epilepsy.
2. Reduction Diet.
3. Surgical Pathology in the Handling of Malignancies—Fresh Tissue and the Grading of Malignancies.

J. Marion Read, M. D., 1530 Medico-Dental Building, 490 Post Street, San Francisco.

1. Some Physiologic Aspects of Blood Pressure.
2. The Nature of Grave's Disease.
3. Our Present Knowledge of Thyroid Disease.

Francis H. Redewill, M. D., 522 Flood Building, 870 Market Street, San Francisco.

1. Demonstration of the New Redewill Foroblique Coagulation Cystoscope Made by Wappler. (Display of instrument, and lantern slides.)
2. Treating Urinary Bladder Tumors with Parathyroid and the High Frequency Coagulation Current. (Colored lantern slides.)
3. Recent Advances in Urological Surgery. (Lantern slides.)

Alfred C. Reed, M. D., Union Square Building, 350 Post Street, San Francisco.

1. Treatment of Intestinal Parasites.
2. Preventive Medicine in California.
3. Medical Geography.

Esther Rosencrantz, M. D., San Francisco Hospital, San Francisco.

1. Rollier Treatment in Tuberculosis.
2. Unusual Forms of Tuberculosis.
3. Pulmonary Conditions Simulating Tuberculosis.

Albert H. Rowe, M. D., 242 Moss Avenue, Oakland.

1. Present Status of Food Allergy.
2. The Treatment of Bronchial Asthma and Hay Fever.
3. The Rational Control of Diabetes Mellitus.

John J. Sampson, M. D., 1530 Medico-Dental Building, 490 Post Street, San Francisco.

1. Cardiac Complications of Surgical Procedures.
2. Heart Disease as a Public Health Problem.
3. Coronary Artery Occlusions—Diagnosis, Treatment and Prognosis.
4. Clinical and Instrumental Diagnosis of Cardiac Arrhythmias and Their Treatment.

H. Clare Shepardson, M. D., 204 Fitzhugh Building, 384 Post Street, San Francisco.

1. Treatment of Diabetic Coma.
2. Pre- and Postoperative Treatment of the Diabetic Patient.
3. Any Phase of the General Subject of Diabetes.

John Hunt Shephard, M. D., 608 Medico-Dental Building, San Jose.

1. Carcinoma of the Breast.
2. Lesions of the Esophagus. (Lantern slides.)
3. Diseases of the Thyroid Gland.

Sydney Kinnear Smith, M. D., 230 Grand Avenue, Oakland.

1. Psychiatry and General Practice.
2. Psychoneuroses.
3. Psychoses, Psychoneuroses as a Branch of Internal Medicine.

Albert Soiland, M. D., 1407 South Hope Street, Los Angeles.

1. Observations of Uterine Cancer Treated by Radiation, and Results, During the Past Fifteen Years.
2. Our Conception of the Management of Breast Cancer.
3. Electrocoagulation and Radiation in the Treatment of Skin Malignancies.

Harry Spiro, M. D., and W. W. Newman, M. D., 450 Sutter Street, San Francisco.

1. Angina Pectoris—Treatment and Diagnosis.
2. Acute Coronary Artery Occlusion—Treatment and Diagnosis.
3. Various Cardiac Irregularities—Diagnosis and Treatment. (Moving pictures of living animal hearts).

William E. Stevens, M. D., Flood Building, 870 Market Street, San Francisco.

1. Urology in Women.
2. Urology in Children.
3. Urological Diagnosis.

Clifford Sweet, M. D., 242 Moss Avenue, Oakland.

1. The Child as a Patient. A discussion of the physiological or psychological failures that apply especially or exclusively to children.
2. Allergy During Childhood. Conditions other than asthma and generally recognized as allergic states which have frequent and important bearing upon the diagnosis and treatment of diseases of children.
3. Pediatric Surgery. Acute appendicitis in childhood—Diagnosis often more difficult than in adult; treatment.

H. J. Templeton and C. J. Lunsford, M. D., 3115 Webster Street, Oakland.

1. Treatment of the Cutaneous Malignancies. (Lantern slides and demonstration of modalities used.)
2. Ringworm of the Feet. Practical considerations and a report of the research work at the University of California.
3. Syphilis. (Lantern slides of cutaneous lesions and discussion of therapy.)

Harold Guyon Trimble, M. D., 707 Latham Square Building, 508 Sixteenth Street, Oakland.

1. Clinic on Chest Surgery (with collaboration of surgical colleague).
2. Diagnostic Lung Clinic.
3. Clinical Aspects of Heliotherapy.
4. The Problem of the Preventorium Child.

Howard L. Updegraff, M. D., 6777 Hollywood Boulevard, Hollywood.

1. Methods of Reconstructive Plastic Surgery. (Lantern slides and movies.)
2. Plastic Surgery and Hand Contractures. (Lantern slides and movies.)
3. Facial Reconstruction by Plastic Surgery. (Lantern slides and movies.)

William C. Voorsanger, M. D., 1001 Medico-Dental Building, 490 Post Street, San Francisco.

1. Early Diagnosis and Case Finding in Pulmonary Tuberculosis.
2. Undiagnosed Cough. (Illustrated.)
3. Evaluation of Surgical Procedures in the Treatment of Pulmonary Tuberculosis.

Stuart C. Way, M. D.

(See topics under Harry E. Alderson, M. D.)

Miley B. Wesson, M. D., 939 Medico-Dental Building, 490 Post Street, San Francisco.

1. Intravenous Pyelography.
2. Diseases of the Prostate and Their Treatment, Medical and Surgical.
3. Diseases of the Bladder, Symptoms and Treatment.

Rodney A. Yoell, M. D., 1444 Medico-Dental Building, 490 Post Street, San Francisco.

1. Jaundice—Its Surgical Significance.
2. Acute Phlegmonous Cholecystitis—Diagnosis and Treatment.
3. Biliary Tract Physiology in Relation to Gall-Bladder Surgery.

COUNCIL MINUTES

Minutes of the Two Hundred and Tenth Meeting of the Council of the California Medical Association at San Francisco, May 28, 1932

The following minutes were approved by the Council at its two hundred and eleventh meeting, held at Los Angeles, on September 24, 1932.

Held in the office of the Association, Room 2004, 450 Sutter Building, San Francisco, Saturday, May 28, 1932, at 9:30 a. m.

Present.—President Joseph M. King; President-elect George G. Reinle; Speaker of the House E. M. Pallette; Chairman of the Council O. D. Hamlin; Chairman of the Executive Committee T. Henshaw Kelly; Councilors William W. Roblee, R. A. Cushman, William H. Kiger, William Duffield, Fred R. DeLappe, Alfred L. Phillips, Karl L. Schaupp, Robert A. Peers, George G. Hunter, Henry J. Ullmann and Junius B. Harris; Editor George H. Kress; Secretary-Treasurer Emma W. Pope and General Counsel Hartley F. Peart.

Absent.—Dr. Henry S. Rogers.

1. **Call to Order.**—The meeting was called to order by the chairman, O. D. Hamlin.

2. **Minutes of the Council.**—Minutes of the 209th meeting of the Council were read by the secretary.

Action by the Council.—On motion of Schaupp, seconded by Duffield, and unanimously carried, the following resolution was adopted:

Resolved, That the minutes of the 209th meeting of the Council be approved as read.

3. **Publication of Transactions of Annual Meeting.**—The editor stated that the transactions of the annual session and the Council minutes which should be published in the June issue would cover fifty pages; that at the Pasadena session an extra folio of sixteen pages had been authorized for the June issue for transactions. Doctor Kress stressed the desirability of presenting all minutes of the annual session in the official journal immediately following the close of the meeting.

Action by the Council.—On motion of Kress, seconded by Reinle, and unanimously carried, the following resolution was adopted:

Resolved, That two extra sixteen page folios be authorized for the June issue of the JOURNAL for publication of the transactions of the annual session (minutes of the House of Delegates and Council and digests of minutes of the Executive Committee which have been approved to date).

4. **Financial Statement.**—Financial statement for the month of April, 1932, was presented by the secretary and approved as follows:

April, 1932

Total receipts for April.....	\$ 5,477.17
Total expenses for April.....	8,850.33
*Loss for April.....	3,373.16
Gain for three months.....	29,164.21
Total gain for 1932.....	\$25,791.05

*The apparent increase of expenses over receipts for April to December is occasioned by the fact that the major portion of dues is received during the first three months of the year.

Cash on hand, January 31, 1932.....	\$32,791.28
Cash on hand, Revolving Fund.....	1,000.00
Cash on hand, petty cash.....	50.00
Cash on hand, Salary Fund.....	1,300.00
	35,141.28

Total cash on hand, April 30, 1932.....\$60,932.33

5. **Medical Service Plan.**—The director of the Department of Public Relations presented a report on the medical service plan to individuals whose annual income is less than \$2200 per annum as proposed by John H. Shephard of San Jose. Doctor Dickie submitted a letter from Doctor Shephard outlining the plan, application for membership in the Physicians' Association, and rules and by-laws governing membership in the Association and outline of provisions of the Santa Clara Benevolent Health Association.

The plan was then discussed briefly by Doctor Dickie and Doctor Gibbons, who, with the general counsel, had attended the meeting at San Jose of the Santa Clara County Medical Society. Doctor Gibbons stated that the California Medical Association was not in a position to underwrite the plan as desired by the San Jose members.

Action by the Council.—On motion of Hunter, seconded by Cushman, and unanimously carried, the following resolution was adopted:

Resolved, That the Department of Public Relations and the general counsel be instructed to continue in an advisory capacity to offer such service to the Santa Clara County Medical Association as in their judgment is deemed proper toward the working out of the plan already proposed or a similar plan.

6. **Recess of Council.**—At this point, on motion of Ullman, seconded by Kelly, and unanimously carried, a recess of the Council was declared to permit meetings of the members and directors of the Trustees of the California Medical Association.

7. **Call to Order.**—After recess, the meeting was called to order by the chairman.

8. **Medical Service Plan.**—Dr. John Hunt Shephard of San Jose outlined the plan proposed for the furnishing of medical service. Doctor Shephard stated that a considerable number of details and legal aspects of the plan had to be worked out. Doctor Shephard expressed the opinion that no group of physicians should offer any medical service plan of this type unless it was presented to and approved by the State Association.

It was the sense of the Council that the resolution of Doctor Hunter as adopted earlier in the day covered the situation.

9. **Expenditures of Association.**—The secretary read the report of the special committee on Survey of Expenditures of the Association.

Action by the Council.—On motion of Pallette, seconded by Reinle, and unanimously carried, the following resolution was adopted:

Resolved, That the report be received and the recommendations be considered individually.

A copy of the report was ordered suffixed to these minutes. The report was then read section by section and the following action was taken:

Action by the Council.—On Motion of Peers, seconded by Gibbons, and unanimously carried, the following resolution was adopted:

Resolved, That Emma W. Pope be appointed secretary-treasurer for the ensuing year at a salary of \$4000 per annum.

Action by the Council.—On motion of Cushman, duly seconded, and unanimously carried, the following resolution was adopted:

Resolved, That George H. Kress be appointed editor of CALIFORNIA AND WESTERN MEDICINE for the ensuing year at a salary of \$4000 per annum.

Action by the Council.—On motion of Duffield, seconded by Schaupp, and unanimously carried, the following resolution was adopted:

Resolved, That Hartley F. Peart be appointed general counsel for the ensuing year at a retainer of \$4000 per annum.

In discussing the recommendation on the salary of the director of the Department of Public Relations, since the Committee on Public Relations had not yet organized or submitted recommendations it was recommended that the salary be fixed on a month to month basis.

On motion duly made, seconded and carried, the following resolution was adopted:

Resolved, That the salary of the director of the Department of Public Relations be fixed at \$400 per month.

Action by the Council.—On motion of Gibbons, seconded by Harris, and unanimously carried, the following resolution was adopted:

Resolved, That the recommendation of the committee on salaries of office assistants reading as follows: "That the salaries of the office assistants, in consideration of their long service and added duties and the amounts which they receive, remain as at present," be adopted.

Action by the Council.—On motion of Gibbons, seconded by Cushman, and unanimously carried, the following resolution was adopted:

Resolved, That the recommendation of the committee on secretarial expense of the Cancer Commission and Department of Public Relations reading as follows: "That the secretarial expense of the Cancer Commission and the Department of Public Relations be kept as low as possible by careful allocation and combination of work in these departments," be adopted.

Action by the Council.—On motion of Hunter, seconded by Reinle, and unanimously carried, the following resolution was adopted:

Resolved, That the recommendation of the committee on rentals reading as follows: "Inasmuch as the lease on the main offices, Rooms 2004-5-7, 450 Sutter Street, San Francisco, has two years to run, no change in rent can be made at this time, but the committee recommends that in conformity with rental reductions in other buildings, a reduction should be obtained as soon as possible. It calls attention to the fact that the lease on room 2039 expires on July 14, 1932," be adopted.

Action by the Council.—On motion of Duffield, seconded by Schaupp, and unanimously carried, the following resolution was adopted:

Resolved, That the recommendation of the committee on transportation expense reading as follows: "It was the sense of the committee that as much work as possible be allocated to committees of the California Medical Association so as to minimize the necessity of meetings of the Council and of the Executive Committee, thereby saving somewhat on transportation expenses. The other customary transportation expenses for delegates to the American Medical Association, Committee on Scientific Work, Department of Public Relations, president's visits and invited speakers at the annual session are, in the opinion of the committee, justifiable and need not be altered.

Action by the Council.—On motion of Duffield, seconded by Hunter and unanimously carried, the following resolution was adopted:

Resolved, That in accordance with the recommendation of the committee a sum representing twenty-five cents per member of the California Medical Association be contributed to Lane Medical and Barlow Medical Libraries.

Action by the Council.—On motion of Hunter, seconded by Cushman, and unanimously carried, the following resolution was adopted:

Resolved, That the recommendation of the committee regarding the Committee on Public Policy and Legislation, reading as follows: "The committee commented favorably upon the minimum expenses of the

Committee on Public Policy and Legislation and it feels that the Association should allocate such funds to this committee as the Council, in its wisdom, shall think fit," be adopted.

Action by the Council.—On motion of Duffield, seconded by Gibbons, and unanimously carried, the following resolution was adopted:

Resolved, That in accordance with the recommendation of the committee reading as follows: "The committee recommends the continuation of the annual prizes for the best papers submitted on research and clinical subjects," be adopted and the annual clinical and research prizes be continued.

Discussion was had of the recommendation of the committee that a directory of members be included in the February issue of the JOURNAL and Doctor Kress called attention to the fact that the use of keyed references for county societies would conserve space and cost of typesetting.

Action by the Council.—On motion of Ullmann, seconded by Peers, and unanimously carried, the following resolution was adopted:

Resolved, That the recommendation of the committee for the inclusion of a directory list of members in the February issue be adopted, with the amendment of the use of keyed numbers to indicate county societies.

Action by the Council.—On motion of Schaupp, seconded by Ullmann, and unanimously carried, the following resolution was adopted:

Resolved, That the recommendation of the Committee on bound volumes of CALIFORNIA AND WESTERN MEDICINE reading as follows: "The committee recommends that one bound copy of each volume of CALIFORNIA AND WESTERN MEDICINE be provided for the office of the California Medical Association and one for the office of CALIFORNIA AND WESTERN MEDICINE, but that the binding of the volumes for all officers and councilors be discontinued.

Action by the Council.—On motion of Ullmann, seconded by Duffield, and unanimously carried, the following resolution was adopted:

Resolved, That the *Pre-Convention Bulletin* be published as a section of CALIFORNIA AND WESTERN MEDICINE and that reprints be sent to every delegate and alternate before the convening of the House of Delegates.

Discussion was had of the last paragraph of the report relating to CALIFORNIA AND WESTERN MEDICINE which suggests a reallocation of certain items of general expense reading as follows: "Finally, the Committee suggests to the Council and the Auditing Committee, that, in the allocation of one-third of the general expense of the Association to CALIFORNIA AND WESTERN MEDICINE, they may properly omit any items in these expenses, such as general meeting expenses which have no direct bearing upon JOURNAL costs."

Action by the Council.—On motion of Kress, seconded by Harris, and unanimously carried, the following resolution was adopted:

Resolved, That the recommendations of the committee regarding CALIFORNIA AND WESTERN MEDICINE be adopted and that a report on the reallocation of items of general expense chargeable to the JOURNAL be made at the next meeting of the Executive Committee.

Action by the Council.—On motion of Duffield, seconded by Hunter, and unanimously carried, the following resolution was adopted:

Resolved, That the report of the committee, as amended, be adopted as a whole.

The editor pointed out that under the new editorial arrangement additional secretarial help would be needed at his office at Los Angeles.

Action by the Council.—On motion of Hunter, seconded by Reinle, and unanimously carried, the following resolution was adopted:

Resolved, That the editor be allowed \$50 per month for secretarial expense at his Los Angeles office.

10. Medical Service Corporation.—The general counsel presented correspondence regarding a clinic at San Diego which had filed articles of incorporation with the Secretary of State, and reported on the action taken by the legal department.

Action by the Council.—On motion of King, seconded by Pallette, and unanimously carried, the following resolution was adopted:

Resolved, That the matter be referred to the legal department with power to act.

11. Superior Hospital Association.—The general counsel referred to a plan for hospital service to be furnished by a group at Sacramento and stated that copies of the correspondence had been sent to the Department of Public Relations, Doctor Graves and other officers of the Association.

12. Mexican Medical Society.—The general counsel read a letter regarding correspondence from the Mexican Medical Society of Los Angeles which was referred by the Los Angeles County Medical Association to the Council relating to alleged erroneous statements regarding herbalists.

Action by the Council.—On motion of Ullmann, seconded by DeLappe, and unanimously carried, the following resolution was adopted:

Resolved, That the report be accepted and a copy of the letter of the general counsel be furnished the secretary of the Los Angeles County Medical Association.

13. Advertising Contract.—The general counsel stated that he was revising the advertising contract of Mr. Flynn and drawing a contract to cover the southern territory for Mr. Butterworth.

The editor suggested that the general counsel write a letter to the southern councilors embodying his suggestions so that they might be considered by the councilors, and desirable changes be embodied in the contract.

14. Utah Medical Association.—The editor read a letter regarding the discontinuance of the affiliation of the Utah State Medical Association with CALIFORNIA AND WESTERN MEDICINE in which it was pointed out that the action taken was in line with discussion at the last annual session of the Utah Medical Association and reflected economic conditions in Utah.

15. Advertising Agents.—The editor read a letter in which he suggested that the names of the advertising representatives appear in the masthead box on the editorial page of CALIFORNIA AND WESTERN MEDICINE.

Action by the Council.—On motion of Gibbons, seconded by Hunter, and unanimously carried, the following resolution was adopted:

Resolved, That the suggestion of the editor for inclusion of the names of the advertising agents in the masthead box of the editorial page be adopted.

16. Ownership of X-Rays.—Discussion was had of publicity for the forms covering ownership of x-rays as prepared by the general counsel under instruction of the Council. It was the sense of the Council that the forms be published following the symposia on x-rays which is to appear in the JOURNAL.

17. Advertising Rates.—A letter on rates for advertising in CALIFORNIA AND WESTERN MEDICINE was read. No action taken.

18. Committee on Survey of Expenditures of Association.—Discussion was had of transportation expense of members of the special committee appointed to make a survey of the expenditures of the Association as authorized by House of Delegates resolution.

Action by the Council.—On motion of Pallette, seconded by Cushman, and unanimously carried, the following resolution was adopted:

Resolved, That the transportation expense of members of the Special Committee on Survey of Expenditures of the Association be paid.

19. Date of Council Meeting.—Action by the Council: On motion of Gibbons, seconded by Reinle, and unanimously carried, the following resolution was adopted:

Resolved, That the date of the next Council meeting be fixed as September 24, 1932, at Los Angeles.

20. Adjournment.—There being no further business the meeting adjourned.

O. D. HAMLIN, *Chairman.*
EMMA W. POPE, *Secretary.*

* * *

REPORT OF THE COMMITTEE ON SURVEY OF EXPENDITURES

To the Council of the California Medical Association:

The committee created by Resolution No. 3 of the House of Delegates of the California Medical Association "to make a detailed survey of the expenditures of the California Medical Association and of CALIFORNIA AND WESTERN MEDICINE, looking toward a reduction of such expenditures and report to the Council," submits the following report.

The committee has studied the accounts of the Association, the report of the audit of Mr. Hugh Ross, itemized lists of the expenditures of the Association compiled for it by the secretary-treasurer; it has consulted with the secretary-treasurer concerning the work and methods of organization; three of its members have consulted with the editor of CALIFORNIA AND WESTERN MEDICINE and various members have discussed the work of the Association with various officers and members thereof.

The committee spent the entire day of May 21 in a meeting at San Francisco, which was attended by the entire membership of the committee, and at this time full discussion was had of all matters felt by it to be within its scope. From these discussions the opinions and recommendations contained herein were derived.

Salaries.—The matter of salaries was first considered and the committee recommends:

1. That the present salary of the secretary-treasurer, a position that demands full-time service and that no longer is combined with any additional compensation for services rendered to CALIFORNIA AND WESTERN MEDICINE as associate editor, be increased to \$4000 per year.

2. That the salary of the editor of CALIFORNIA AND WESTERN MEDICINE be fixed at \$4000 per year.

3. That in consideration of the generosity and efficiency of the general counsel of the Association and the increased demands upon his services that will be made by reason of the new activities arising in the Department of Public Relations, his present retainer be continued at \$4000 per year.

4. That the salary of the director of the Department of Public Relations, pending permanent delineation of his activities and any other arrangements considered advisable by the Council and the Committee on Public Relations, be fixed at \$400 per month.

5. That the salaries of the office assistants, in consideration of their long service and added duties and the amounts which they receive, remain as at present.

6. That the secretarial expense of the Cancer Commission and the Department of Public Relations be kept as low as possible by careful allocation and combination of work in these departments.

Rents.—Inasmuch as the lease on the main offices, Rooms 2004-5-7, 450 Sutter Street, San Francisco, has two years to run, no change in rent can be made at this time, but the committee recommends that, in conformity with rental reductions in other buildings, a reduction should be obtained as soon as possible. It calls attention to the fact that the lease on room 2039 expires on July 14, 1932.

Transportation Expense.—It was the sense of the committee that as much work as possible be allocated to committees of the California Medical Association so as to minimize the necessity for meetings of the Council and of the Executive Committee, thereby saving somewhat on transportation expense. The other customary transportation expenses for delegates to the American Medical Association, Committee on Scientific Work, Department of Public Relations, president's visits and invited speakers at the annual

session are, in the opinion of the committee, justifiable and need not be altered.

Lane and Barlow Medical Libraries.—The committee recommends that the sum of \$.25 (twenty-five cents) per member allocated last year to Lane and to Barlow Libraries be so allocated again in 1932 because of the necessity of support for these libraries, particularly at this time.

Committee on Public Policy and Legislation.—The committee commented favorably upon the minimum expenses of the Committee on Public Policy and Legislation and it feels that the Association should allocate such funds to this committee as the Council, in its wisdom, shall think fit.

Annual Prizes.—The committee recommends the continuation of the annual prizes for the best papers submitted on research and clinical subjects.

Annual Directory.—Inasmuch as the Constitution provides that an annual directory be published each year, the committee recommends that this consist of an alphabetical list of members in good standing on January 1 with the names of the county in which they reside and the name of the component county society in which they hold membership, this list to be published in the February issue of CALIFORNIA AND WESTERN MEDICINE.

Bound Volumes of California and Western Medicine. The committee recommends that one bound copy of each volume of CALIFORNIA AND WESTERN MEDICINE be provided for the office of the California Medical Association and one for the office of CALIFORNIA AND WESTERN MEDICINE, but that the binding of the volumes for all officers and councilors be discontinued.

The Pre-Convention Bulletin.—Inasmuch as only a few copies of the *Pre-Convention Bulletin* are needed annually and the expense of publication is a definite one, and as the provisions of the Constitution and By-Laws will be satisfied thereby, the committee recommends that the *Pre-Convention Bulletin* be printed as a section of the annual program number of CALIFORNIA AND WESTERN MEDICINE, in which it will be available to many more members for their information.

California and Western Medicine.—The committee has made a very careful study of the relationship of the California Medical Association and its journal, CALIFORNIA AND WESTERN MEDICINE, as expressed in the Constitution and By-Laws of the California Medical Association and as developed in the course of years of work.

The committee believes that the complete segregation of the activities of CALIFORNIA AND WESTERN MEDICINE is not a move for economy or harmony and is not in keeping with the policy or the Constitution and By-Laws of the California Medical Association.

However, as a matter of efficiency, the committee recommends a rearrangement of the office personnel and space of the Association which will provide the editor a secretary at the office of the Association who shall be under his supervision, whose entire time shall be devoted to the work of CALIFORNIA AND WESTERN MEDICINE and who shall have adequate space allotted in the office of the Association.

The proposal to move the activities of CALIFORNIA AND WESTERN MEDICINE to separate quarters is not considered desirable by the committee because of the necessarily close relationship of the Association and its journal in the matter of records and accounting.

Pursuant to those beliefs, the committee further recommends (1) that Miss Comings be designated as secretary to the editor and that half of Miss Mickel's time be allotted to the work of CALIFORNIA AND WESTERN MEDICINE; (2) that a monthly statement of all changes in, and the present status of all advertising accounts of CALIFORNIA AND WESTERN MEDICINE be furnished the editor for his information; (3) that Miss Comings' desk be moved into the east room of the Association's office and that a notation, "California and Western Medicine, George H. Kress, Editor, Entrance 2004," be placed upon the outside door of that room.

Finally, the committee suggests to the Council and the Auditing Committee that, in the allocation of one-third of the general expense of the Association to CALIFORNIA AND WESTERN MEDICINE, they may properly omit any items in these expenses, such as general meeting expenses which have no direct bearing upon JOURNAL costs.

Respectfully submitted,

COMMITTEE ON SURVEY OF EXPENDITURES OF CALIFORNIA MEDICAL ASSOCIATION.

T. Henshaw Kelly, Chairman
Thomas Chalmers Myers
Harry H. Wilson
Percy T. Phillips
Junius B. Harris

COMPONENT COUNTY MEDICAL SOCIETIES

CONTRA COSTA COUNTY

The first autumn meeting of the Contra Costa County Medical Society was held on Tuesday, September 13, at the nurses' home of the County Hospital at Martinez.

The meeting was called to order at 8:40 p. m., Dr. S. N. Weil of Rodeo presiding.

It was our pleasure to have two guest speakers, who presented papers which were a departure from the usual scientific program. Dr. L. E. Curtis of San Francisco, in speaking on *The Physician's Obligation in Caring for Industrial Cases* went most completely into the routine of that class of practice, clearing up many troublesome questions which arise frequently to confuse the general man in caring for industrial patients. The climax of his well-prepared paper was in stating, concisely, the obligation of the physician to the profession, to the laity, and to the patient. Dr. Daniel Crosby of Oakland in *Some of the Newer Phases of the Economics of Medical Practice* gave a comprehensive account of the regimen of public health programs of several of the European countries, particularly in Germany. He stressed both the good and the bad features, making his points most impressive by apt touches of humor.

Dr. U. S. Abbott rendered a report of the state medical convention held in Pasadena, giving a delightful account of what occurred there, that the next convention will be held at Del Monte and, of greatest interest, that the president-elect is Dr. George Reinle of Oakland.

The report of progress made by the Hospital Committee was made by Dr. U. S. Abbott and amplified by Dr. L. H. Fraser.

Acting upon the suggestion of Dr. L. H. Fraser that Dr. E. W. Merrithew of Martinez be appointed a permanent member of the Committee on Hospital Investigation in an advisory capacity, Doctor Weil made the appointment.

The attendance at this meeting was one of the best of the year. There were twenty-five members and guests present: Dr. L. E. Curtis of San Francisco, Dr. Daniel Crosby of Oakland, Mrs. Merrithew, Doctors Weil, U. S. Abbott, Bishop, J. W. Bumgarner, Beede, Fraser, Beard, Daily, Sweetser, Church, Leech, Ford, Edmeads, Morken, Merrithew, Dozier, Rowell, Leggo, C. Spalding, Dietderich, Coates, and Markham.

Doctor Weil announced that the next meeting will occur on October 11, and will be held at the Hotel Carquinez, Richmond.

CLARA H. SPALDING, Secretary.

*

FRESNO COUNTY

The Fresno County Medical Society held its September meeting at the Fresno General Hospital at 8 p. m., September 6.

Dr. Victor E. Campbell, being approved by the state society and local board of censors, was unani-

mously voted a member of the Fresno County Medical Society.

Dr. Kenneth W. Butler, 133 East Yosemite Avenue, Madera, presented an application for membership.

Doctor Leland, director of the Bureau of Medical Economics of the American Medical Association, has made a special request for a questionnaire to be answered by each county medical society. This questionnaire was read to the society. It was moved by Dr. B. F. Walker, seconded by Dr. R. W. Dahlgren, that the secretary answer the questionnaire to the best of his ability and mail it to the state secretary.

Dr. J. D. Morgan gave a progress report on the formation of a doctors' credit bureau and asked for the privilege of securing proper legal advice in case the information desired cannot be obtained from the state councilor. Dr. C. O. Mitchell moved to allow \$50 to defray the expenses of an attorney if necessary. Seconded by Doctor Tillman. Motion carried.

Following the business meeting Dr. William P. Lucas of San Francisco gave an excellent talk on *Some of the Growth and Development Problems in Infants and Children*, a subject on which he has spent time, thought and research. His talk was illustrated with lantern slides.

ELMER J. SCHMIDT, *Secretary*.

✱

ORANGE COUNTY

On Tuesday, September 6, the first regular meeting, following the summer vacation of the Orange County Medical Association, was held at Ketner's Café, Santa Ana, at seven o'clock.

A dinner preceded a symposium on tuberculosis. Dr. F. M. Pottenger, president of the American College of Physicians, favored us with an address on *Diagnosis of Tuberculosis*, the subject being covered most thoroughly from both the clinical and laboratory standpoints, and Doctor Pottenger showed large numbers of x-ray pictures both before and after treatment of these cases. Dr. Carl R. Howson of Los Angeles then gave a most practical and valuable talk on *Hemoptysis*. He explained in detail the various causes and treatment of this important condition. Dr. Elliott P. Smart of Olive View spoke on *The Treatment of Tuberculous Cavities of the Lungs*. This paper was also illustrated by numerous x-ray films, showing the splendid results he had obtained. Dr. Merle L. Pindell of Los Angeles spoke briefly on *The Part X-Ray Has Taken in the Diagnosis of Tuberculosis*. He showed many x-rays of this condition in children, some only a few weeks of age.

A short recess followed after which the business of the association was discussed. The following committees were announced by the chairman:

Building Committee—J. M. Burlaw, H. H. Johnston, F. H. Gobar, C. C. Violett, and J. L. Maroon.

Committee on Executive Legislation—H. A. Johnston, J. M. Burlaw, and W. S. Wallace.

Committee on Medical Economics—D. A. Harwood, W. P. Baker, and G. Wendell Olson.

Doctor Burley, chairman of the Building Committee, stated that some progress had already been made by his committee.

Doctor Cushman of Ukiah requested a transfer of membership from the Orange County Medical Association to the one in which he now resides. It was moved, seconded and unanimously carried that Doctor Cushman's request be granted.

An obituary of Dr. John Edwin McKillop, a former member of the Orange County Medical Association, was read by the secretary, as prepared by Dr. C. D. Ball, chairman of the Committee on History and Obituaries. Doctor McKillop was drowned near Santa Monica on July 25, 1932. It was then moved, seconded and unanimously carried that a copy be forwarded to Mrs. McKillop, and also be spread upon the minutes of this association.

The first readings on the applications of Dr. Carl R. Jackson of Costa Mesa and of Dr. Newell L. Moore, by transfer from Santa Clara County, were heard.

The final readings on the applications of Dr. J. R. P. Nicoll of Santa Ana, Lavon Bramwell of Orange, and Lawrence F. Whittaker of Huntington Beach were made and, by ballot, they were unanimously elected to membership.

HARRY G. HUFFMAN, *Secretary*.

✱

SANTA BARBARA COUNTY

The regular meeting of the Santa Barbara County Medical Society was held in the Bissell Auditorium of the Cottage Hospital on Monday, September 12, with President Koefod in the chair.

Dr. W. D. Sansum of Santa Barbara gave a most comprehensive and instructive paper on *Treatment of Underweight, Indigestion and Allergy with Old and New Forms of Digestive Agents*, with case reports.

The paper was discussed by Doctors Franklin, Shelton, and Ullmann.

Dr. H. L. Schurmeier of Santa Barbara then followed with a very interesting paper on *Traumatic Arthritis*.

After the conclusion of the scientific session the meeting went into executive session.

The application of Dr. Milton T. Duncan of Lompoc for membership was read and, upon balloting, he was unanimously elected into the society.

Doctor Johnson reported for the special committee to investigate the food service of the General Hospital. It was moved, seconded and carried, that the report be adopted and that copies be given to the Publicity Committee, who in turn should give them to the papers. Doctor Freidell requested that a copy be also given to Supervisor Stevens.

Mr. Remeley of the Merchants' Credit Association gave a brief outline of their plan for creating a professional division. This was discussed by Doctors Franklin, Johnson, Freidell, and Gray.

Doctor Freidell, reporting for the Public Relations Committee, moved that the plans outlined by the Merchants' Credit Association be accepted by the county society and that every member of the society be urged to become a member of the association.

Doctor Brown spoke in favor of admitting interns to membership and made a motion that the interns be declared eligible. As this is contrary to the constitution, the president declared the motion unconstitutional. The president then advised the Constitution and By-Laws Committee to prepare an amendment to the constitution to take care of this matter.

WILLIAM H. EATON, *Secretary*.

CHANGES IN MEMBERSHIP

New Members (16)

Kern County—William B. Smith.

Lassen-Plumas County—Philip W. McKenney, Walter W. Peterson.

Los Angeles County—Jesse LeRoy Bloch, Daniel Leon Elkins, A. L. MacLennan, Roy David Smith.

Orange County—Lavon Bramwell, J. R. P. Nicoll.

San Francisco County—Wilbur Bailey, Charles Benninger, Jr., Harry Mack Blackfield, Claudius Young Gates, Mary Elizabeth Mathes, Frederick Ortman Shumate.

Santa Clara County—Charles Edward Shepard.

Transfers (4)

Helen Hopkins Detrick from San Francisco to Los Angeles County.

Edward L. Sudlow, from Kern to Los Angeles County.

Harlan L. Smith, from San Francisco to Sacramento County.

Harry D. Thompson, from San Francisco to Los Angeles County.

In Memoriam

Boller, Phil. Died in Los Angeles, August 29, 1932, age 45 years. Graduate of College of Physicians and Surgeons, Los Angeles, 1911. Licensed in California, 1911. Doctor Boller was a member of the Los Angeles County Medical Association, the California Medical Association, and a Fellow of the American Medical Association.

+

Coll, Daniel. Died in Susanville, August 30, 1932, age 37 years. Graduate of Stanford University School of Medicine, San Francisco, 1923. Licensed in California, 1923. Doctor Coll was a member of the Lassen-Plumas County Medical Society, the California Medical Association, and the American Medical Association.

+

Cotton, William Clement. Died in San Francisco, August 21, 1932, age 50 years. Graduate of Illinois Medical College, Chicago, 1910 and the Chicago College of Medicine and Surgery, Chicago, 1911. Licensed in California, 1919. Doctor Cotton was a member of the Merced County Medical Society, the California Medical Association, and a Fellow of the American Medical Association.

+

Deane, Tenison. Died in San Francisco, September 1, 1932, age 66 years. Graduate of Cooper Medical College, San Francisco, 1888. Licensed in California, 1888. Doctor Deane was a member of the Yolo-Colusa-Glenn County Medical Society, the California Medical Association, and the American Medical Association.

+

Friesen, J. Frank. Died in Los Angeles, September 8, 1903, age 52 years. Graduate of Bennett Medical College, Chicago, 1906 and the University of Illinois College of Medicine, Chicago, 1907. Licensed in California, 1913. Doctor Friesen was a member of the Los Angeles County Medical Association, the California Medical Association, and was a Fellow of the American Medical Association.

+

Hagadorn, Jesse Lee. Died in San Gabriel, September 5, 1932, age 60 years. Graduate of University of Southern California School of Medicine, Los Angeles, 1893. Licensed in California, 1893. Doctor Hagadorn was a member of the Los Angeles County Medical Association, the California Medical Association, and a Fellow of the American Medical Association.

+

Wing, Peleg Benson. Died in San Diego, August 12, 1932, age 72 years. Graduate of Bowdoin Medical School, Brunswick and Portland, Maine, 1883. Licensed in California, 1901. Doctor Wing was a member of the Washington State Medical Association, the San Diego County Medical Society, the California Medical Association, and was a Fellow of the American Medical Association.

+

Mattison, Fitch C. E. Died September 16, 1932. Graduate of University of Illinois College of Medicine, Chicago, 1888. Licensed in California, 1898. Doctor Mattison was a member of the Los Angeles County Medical Association, the California Medical Association, and was a Fellow of the American Medical Association.

OBITUARIES



Fitch Champlin Edmunds Mattison

1861-1932

Dr. Fitch C. E. Mattison, president of the California Medical Association, 1913-1914, passed away at his residence in Pasadena, September 16, 1932.

He was born in Louisville, Kentucky, May 4, 1861, of Scotch-English parents, they giving to him an inheritance which has shown throughout his long life of success and service. His preliminary education was obtained in Louisville, Annapolis, and the Maryland Institute at Baltimore. The College of Physicians and Surgeons, Chicago, gave him his medical degree in 1888. Having been interested in the drug business in Chicago previous to his study of medicine, he decided to practice in that city. One year after graduation he married Helen H. Blake. For the next ten years he enjoyed a successful and growing general practice.

Owing to the failing health of his wife he found it necessary to come to Pasadena, where he has lived for thirty-three years, devoting himself to the practice of surgery.

Fitch Mattison, as he was affectionately known, had been a successful man from the beginning of his career.

Coming to California at a time when the regular medical profession was organizing for its own betterment and scientific service to the public, Doctor Mattison was enabled to take an active part in the early constructive work.

Up to the time of his death this spirit of progress animated his every action. He helped to organize and build up every medical society in Southern California that in any way advanced medicine or dealt with public health. The part he took in organizing the General Hospital in Los Angeles and the hospital in his own city of Pasadena is well known.

He was president of the staff of the General Hospital and senior staff member of the Pasadena Hospital, operating almost daily up to the day he was stricken. As has been stated, he was president of the California Medical Association, 1913-1914. He was a trustee of the Los Angeles County Medical Association, and this last spring served as a delegate to the American Medical Association, then meeting in New Orleans. Just previous to this meeting he had served as chairman of arrangements at the State Medical Association meeting in Pasadena, giving that organization one of its best conducted meetings ever held. For many years he had been chairman of the Milk Commission of the Los Angeles County Medical Association, and as such has served the public faithfully and so efficiently that Los Angeles County can boast the purest milk in the United States. Besides being a member of his national, state, and county medical societies, he was a member of the Southern California

Medical Society, the American Academy of Medicine, the American Society for the Advancement of Science, the American Medical Milk Commission, the Los Angeles Clinical Pathological Society, Pacific Coast Association of Railway Surgeons, the College of Surgeons, and many other medical organizations. He has served on the State Board of Medical Examiners and acted as chairman when a member of the Public Health Commission of the State of California.

Doctor Mattison has been given every office and honor of a medical nature that this state, county, and city could bestow.

He is survived by one daughter, Mrs. Bess Behr, and her son, Fitch Behr, to whom he was particularly devoted.

One sister and four brothers also survive him. Two of these brothers are physicians; one, Dr. Samuel J. Mattison, was associated with him in practice.

He was a leader of men beloved by them and always happiest when able to serve them. The young man sought him out for counsel and advice, the old man for consolation and sympathy. A close friend has said of him, "He was one of the strongest men in California and one of the most beloved."

PHILIP SCHUYLER DOANE, M. D.

RESOLUTION ADOPTED BY THE BOARD OF COUNCILORS OF THE
LOS ANGELES COUNTY MEDICAL ASSOCIATION,
OCTOBER 3, 1932

By the death of Dr. Fitch C. E. Mattison the members of the Los Angeles County Medical Association have lost a dearly beloved friend and comrade.

Doctor Mattison held in great affection his fellows and the scientific organizations with which he was affiliated. During his long and unusually active career he was accorded every honor within the gift of the medical organizations of his city, county, and state.

He gave freely of his great energy and ability to the advancement and maintenance of the highest ideals of scientific medicine and public welfare. He was ever a leader, yet one to whom the younger men could always go for counsel and advice. His broad mind and big heart made him a friend of the poor and rich alike.

His full and fruitful life was brought to a close in the midst of active service.

His memory will always be treasured by all who have had the privilege of knowing him.

The members of the Board of Councilors of the Los Angeles County Medical Association do hereby record their sorrow, and direct that a copy of this resolution be spread upon the minutes of the Association, and that a suitable copy of the same be sent to the bereaved family, together with an expression of profound sympathy.

+

J. Frank Friesen

1881-1932

With the passing of Dr. J. Frank Friesen, who died suddenly September 8, 1932, the Los Angeles Society of Ophthalmology and Otolaryngology has suffered a threefold loss. Doctor Friesen was one of our most energetic members, our efficient secretary for three years, and our honored president at the time of his demise.

Doctor Friesen was 52 years of age. He attended Bethel College at Newton, Kansas, was graduated by Kansas City College of Pharmacy in 1903, and thereupon began the study of medicine, the practice of which he entered on receiving a diploma at the University of Illinois, medical department, in 1907. In the course of postgraduate training for his specialty, Doctor Friesen worked in the Massachusetts Eye and Ear Infirmary, Harvard Postgraduate School, and the otorhinologic department of Rush Medical College. He had practiced in Los Angeles since 1922 on the staffs of the Los Angeles County, California Lutheran and other hospitals.



J. FRANK FRIESEN

In 1931 he was elected to membership in the American Academy of Ophthalmology and Otolaryngology and at the time of his death he was secretary of the Pacific Coast Otolaryngologic Society.

He will be remembered particularly for his ready cooperation in maintaining high ethical standards, his unflagging interest in professional progress and his undismayed efforts in the face of difficulties.

The Los Angeles Society of Ophthalmology and Otolaryngology will feel his loss very keenly. The members extend to his widow assurances of deepest sympathy and condolence.

F. H. BRANDT, M. D.,
Los Angeles.

THE WOMAN'S AUXILIARY TO THE CALIFORNIA MEDICAL ASSOCIATION*

Councilors for Year 1932

First District:

Mrs. E. A. Blondin, 1202 Golden Gate Drive, San Diego.

Second District:

Mrs. Clifford Wright, 454 South Irving Boulevard, Los Angeles.

Third District:

Mrs. C. P. Proudfoot, 738 Higuera Street, San Luis Obispo.

Fourth District:

Mrs. N. W. Barnes, 1536 North Hunter Street, Stockton.

Seventh District:

Mrs. Louis H. Dyke, 6008 Ross Street, Oakland.

Eighth District:

Mrs. F. N. Scatena, 1400 Forty-first Street, Sacramento.

Councilors-at-Large:

Mrs. Willard H. Newman, 2568 Albatross Street, San Diego.

Mrs. Elliot Alden, 2008 North Serrano, Los Angeles.

Mrs. Dewey Powell, 1617 North Hunter Street, Stockton.

Mrs. R. A. Peers, Colfax.

Committee Chairmen

Membership and Organization:

Mrs. Charles Stevens, 2325 Santa Barbara Street, Santa Barbara.

Program:

Mrs. Thomas Clark, 40 Ross Circle, Oakland.

Publicity and Publication:

Mrs. Clifford Wright, 454 South Irving Boulevard, Los Angeles.

*As county auxiliaries to the Woman's Auxiliary to the California Medical Association are formed, the names of their officers should be forwarded to Mrs. Clifford A. Wright, chairman of Publicity and Publications Committee, 454 South Irving Boulevard, Los Angeles. Brief reports of county auxiliary meetings will be welcomed by Mrs. Wright and must be sent to her before publication takes place in this column. For lists of state and county officers, see advertising page 6. The Council of the California Medical Association has instructed the editors to allocate one page in every issue for Woman's Auxiliary notes. The roster of state and county auxiliary officers is printed in the directory lists on advertising page 6 of this issue of California and Western Medicine.

Public Health:

Mrs. A. M. Henderson, 1600 M Street, Sacramento.

Associated Organizations and Social Welfare:

Mrs. Louis H. Dyke, 6008 Ross Street, Oakland.

Convention and Hospitality:

Mrs. Thomas Clark (chairman), 49 Ross Circle, Oakland.

Mrs. William H. Sargent (vice-chairman), 109 Beechwood Drive, Oakland.

News

The auxiliaries will be starting on their activities next month, and this seems a fitting time to urge cooperation in gathering information for CALIFORNIA AND WESTERN MEDICINE. News items should be in the possession of the chairman of Press and Publications by the tenth of the month. It is earnestly desired that all activities of the county auxiliaries be sent in promptly. If the president of each county auxiliary would appoint a press and publicity chairman this would be a great help. It is an inspiration to know what is being done in other localities.

The exhibition of the state scrap books at the convention in New Orleans was one of the outstanding features of the meeting. Mrs. M. P. Overholser, national chairman of Press and Publicity, recommends the keeping of such a book. She says: "Secure three copies of every mention of the activities of your organization—social, program, welfare, or whatever it may be. Keep one copy for your own county scrap book, send two to your state chairman, who will keep one for the state book and send the other to the Regional Press and Publicity chairman of the western district, Mrs. George W. Miel of Denver, Colorado. These books will be on exhibit at the convention in Milwaukee next year. Will you not help your state to have a splendid showing of the work and play you have done?"

Mrs. Overholser's news letter for September has much of interest from other states. Lack of space prevents using the letter in its entirety, but the following will be of interest.

From the Historian's Corner, by Mrs. W. E. Follis, *Kentucky Auxiliary Quarterly*, July, 1932:

"What unwritten substantiated facts do you know or can you secure about medical history of your county? For the professional and civic justice due the medical pioneers of your county and for the accurate record of Kentucky, I urge you to delve deep and bring these facts to light. Our State Medical Association has asked us to do research for them. This is a definite commission to each individual member of the auxiliary, and we must measure up to the faith our physicians have placed in us. So bring your medical history of Kentucky to your county auxiliary historian or your county president, who will pass it along to the historian."

Many things of rare worth could be found for our own California state scrap book. The value of these compiled bits of news and history will increase as time goes on. Many of you will remember the talk on medicine in this state last year at the state convention, given by one of the early San Francisco men. Many of the things he said regarding medicine in the early days here would be well worth recording for future reference.

Mrs. Overholser's letter also states: "Mr. Doyle E. Hinton, executive secretary of the Anti-Tuberculosis Educational Campaign of Delaware, in a letter to Mrs. Robert W. Tomlison, president of the Delaware auxiliary said:

"The Woman's Auxiliary through you, Mrs. Tomlison, as its president, rendered this office, in the promotion of this campaign, the finest type of assistance; and without your having been made general chairman of the campaign, linking up your official capacity as a director of this society and that of president of the Woman's Auxiliary, this campaign could never have succeeded in either scope or effect as it did.

"There is no organization in this state holding the strategic position to further the health and well-being of the citizens, in an educational way, which is held by the Woman's Auxiliary."

The Woman's Auxiliaries have many possibilities of far-reaching influence for good in the community in which they are well established.

MRS. CLIFFORD A. WRIGHT,
Chairman Publicity Committee.

* * *

Copy from a recent number of the *California Monthly*:

"Too many die.

"Of the million and one-half Americans who died last year, two hundred thousand might have been saved for an additional one to ten years of life, and the national income have been increased at least \$250,000,000 if physicians had been able to apply their knowledge of preventable diseases to the lives of these individuals."

This statement was made by Dean Langley Porter of the University Medical School in a recent public address. He said that thirty-nine out of every one thousand deaths in the United States are premature and result from preventable causes. This waste of life may be stopped by more intensive education of the public in the common-sense facts of health and personal hygiene which medical research has provided.

In regard to the high cost of medical care, he explained that a national committee is now making a study of the conditions, but added: "The high cost of medical care is an unfortunate expression. The high cost is not of medical care, but of sickness and of the economic loss incident to sickness. You would be surprised to know how much free work doctors do.

"We do not hear of any campaign against the high cost of tobacco, yet the people of this country spend as much and more for cigars and cigarettes every year than it takes to sustain all our hospitals. Nor do we hear any outcry against the high cost of beauty parlors, yet more than \$2 goes for cosmetics to every dollar spent for health.

"Did you ever hear of a 'physician Prince' as you hear of a 'Merchant Prince'? Did you ever know of a hospital that had any melons to cut—any need to hide profits or to dodge the income tax by declaring stock dividends and other evasive devices used by many a corporation?

"Wouldn't it be better if the merchant princes and captains of industry who are so concerned about the high cost of medical care to their employees would recast their economic relations so that employees could earn a wage large enough to meet the legitimate costs of those sicknesses which attack them and their families?"

ELLA CLARK DYKE,

Chairman of Publicity and Publications Committee.

NEVADA STATE MEDICAL ASSOCIATION

A. C. OLMSTED, Wells.....	President
O. HOVENDEN, McGill.....	President-Elect
J. H. HASTINGS, Ploche.....	First Vice-President
E. E. HAMER, Carson City.....	Second Vice-President
HORACE J. BROWN, Reno.....	Secretary

COMPONENT COUNTY MEDICAL SOCIETIES

WASHOE COUNTY

The Washoe County Medical Society met in its regular session Tuesday, September 13, in the Nevada State Building, Reno. There were twenty-five members present.

Applications of A. W. MacPherson, graduate of the College of Evangelists, California; Frank W. Samuels, graduate of the Cornell College, New York City; and Henry A. Kimmel, graduate of the University of Pennsylvania, all were referred to the Board of Censors and by motion were unanimously accepted into the Washoe County Medical Society.

Resolutions on the death of Dr. Don Coll of Susanville, California, who died August 30 at his home following an intermittent illness of several months preceding, were read, a copy of which is appended. The same was ordered spread on the minutes of the society and a copy sent to his wife and a copy to his home paper.

A committee was appointed of Doctors Hund, West, and M. A. Robison to confer with the registrar of the nurses' bureau with reference to part-time nursing service for convalescent patients, accessibility to drug stores during night hours, and for a physicians' ambulance.

Dr. I. S. Egan presented a letter to the society, which was read, in which for reasons of his own he tendered his resignation from state and county societies. His resignation was unanimously accepted.

Following this order of business the society was addressed by Dr. Horace J. Brown, member of the State Board of Medical Examiners. Doctor Brown gave a *Résumé of the Work of the Board of Medical Examiners* the last few years. This résumé was certainly interesting as it showed that, with reference to handling prospective applicants for medical license in Nevada, an entire change in the procedure of investigations with reference to the personal habits and character, standing in his community, preliminary education, medical education, class of practice done, and when and where. The result of these investigations into the applicants life and medical history has had the effect that upward of thirty applicants within the last few years who desired to browse in the succulent medical pastures of Nevada failed to get in either through the gate or by jumping over the fence. This fence-jumping act by way of admission is now at an end and Nevada today stands equal in medical requirements with the strictest state in the Union. Doctor Brown's talk was well received and the members felt considerable elation to learn of our progress along the medical practice act lines.

The president instructed the Committee on Health and Legislation, consisting of Doctors Paradis, Dwight Hood and M. A. Robison, to get busy along the lines of medical legislation and other conditions which might be of advantage to the medical profession of Nevada.

Dr. A. R. DaCosta read a copy of a draft memorandum with reference to the appointment of the staff for the new Washoe General Hospital, soon to be completed. A reprint of the memoranda was ordered and copies to be distributed to all members of the Washoe County Society.

THOMAS W. BATH, Secretary.

DAN COLL—IN MEMORIAM

WHEREAS, The sad and untimely death of our beloved associate, Dr. Dan Coll of Susanville, California; and

WHEREAS, In the death of Doctor Coll the city of his field of practice and the profession at large have lost a rare and beloved personality, endowed with skill and possessing the knowledge of his day and generation; being young in years, yet having the divine gift of understanding of the human heart and possessed of skill to administer to the needs of the body; and

WHEREAS, The sudden death leaves sadness and despair for one who has suddenly passed through the Western Gate which no eulogy uttered by tongue or written by pen can add to or detract from the splendid personality with which he was endowed; now therefore be it

Resolved, That we, the members of the Washoe County Medical Society, hereby, through these feeble resolutions, express our deep sorrow for his departure and urge that all members of his profession look upon

his kindness and efficiency as a physician as qualities to be emulated and achieved; and be it further

Resolved, That we convey our sincere sympathy to his bereaved wife and family.

J. LaRue Robinson
Dwight L. Hood
Thomas W. Bath

News

Nevada Medical Association.—The twenty-ninth annual session of the Nevada State Medical Association was held at Bowers Mansion, Friday, September 23, and Saturday September 24, 1932.

Headquarters were at the Golden Hotel, Reno.

President Olmsted called the session to order and Dr. Horace J. Brown officiated as secretary. Reports of the session will be printed in a later issue of CALIFORNIA AND WESTERN MEDICINE.

Bacteriology of Pus.—Norton emphasizes the fact that the proper collection of material is essential for a satisfactory laboratory examination. Skin contaminants must be rigidly excluded. Too great emphasis cannot be placed on this point, if the laboratory worker is to give the clinician a true picture of the bacteriology of the material submitted. The first step in laboratory examination of pus is, under all conditions, the preparation and examination of a proper smear on a microscope slide. Care should be taken to make thin film preparations. A stain according to Gram's method gives the most valuable indication of any single stain but will not, of course, detect the tubercle bacillus. Hence it is extremely desirable for the laboratory to be furnished with accurate information concerning the source of the material. Various modifications of the original Gram method have been introduced. The author's experience has been that careful attention to the details of the technique is fully as valuable in yielding consistent results as any modification of the solutions employed. This is particularly true in regard to the alcohol (or acetone) decolorization. In "old" pus the Gram stain may be uncertain. In many laboratories the methylthionin chlorid stain is used for the detection of gonococci. While this is reasonable under special conditions in which the clinician and the laboratory work in close coöperation, it is not to be recommended. Furthermore, it is highly desirable to make a Gram stain if organisms resembling the gonococci are seen in the material submitted, so little is gained by the use of methylionin chlorid. For pus from tuberculous conditions, the Ziehl-Neelsen method, or some of its modifications, is in general use. The methylthionin chlorid stain may be used for detecting organisms resembling diphtheria bacilli, while either methylthionin chlorid or gentian violet is useful for staining the spirochetes and fusiform bacilli characteristic of Vincent's infection. — *Journal of Laboratory and Clinical Medicine*.

Yawning.—Pieper advances the theory that yawning is nothing but a respiratory movement, which is produced by a reduction in the nervous excitability of the respiratory center. Considered from the evolutionary point of view, the yawning center is a lower form of the respiratory center, and the latter ordinarily inhibits the yawning. When, however, during fatigue these inhibitions are reduced, the yawning center dominates temporarily. Thus one does not yawn to counteract fatigue but as a result of fatigue. — *Deutsche medizinische Wochenschrift*.

Inadvisability of Simultaneous Use of Ethyl Chlorid Spray with Galvanocautery.—Dietel shows that under certain conditions ethyl chlorid can become inflammable. He admits that the likelihood of a fire is somewhat remote but nevertheless thinks that the fire danger is sufficient to contraindicate the simultaneous use of the ethyl chlorid spray and the galvanocautery. — *Deutsche Med. Wochenschrift*.

MISCELLANY

Under this department are ordinarily grouped: News; Medical Economics; Correspondence; Twenty-five Years Ago column; Department of Public Health; California Board of Medical Examiners; and other columns as occasion may warrant. Items for the News column must be furnished by the fifteenth of the preceding month. For Book Reviews, see index on the front cover, under Miscellany.

NEWS

Coming Meetings—

American Medical Association, Milwaukee, Wisconsin, June 12-16, 1933, Olin West, M. D., 535 North Dearborn Street, Chicago, secretary.

California Medical Association, Del Monte, April 24-27, 1933, Emma W. Pope, M. D., 450 Sutter Street, San Francisco, secretary.

American Public Health Association, Washington, D. C., October 24-27, Kendall Emerson, M. D., 450 Seventh Avenue, New York, acting executive secretary.

American College of Surgeons, St. Louis, October 17-21, Franklin H. Martin, M. D., 40 East Erie Street, Chicago, Secretary.

American Public Health Association to Meet in Washington.—The sixty-first annual meeting of the American Public Health Association will be held in Washington, D. C., October 24 to 27, 1932. Other health organizations, recognizing the value of close contact with the association, have chosen the same time and place for their annual conferences. This year the American Social Hygiene Association, the American Association of School Physicians, the International Society of Medical Health Officers, the Conference of State Laboratory Directors, Conference of State Sanitary Engineers, and the Association of Women in Public Health will hold their conferences in Washington at or about the same time.

Health Officers to Meet in San Diego.—The Department of Public Health of the California League of Municipalities will hold its regular annual meeting in San Diego September 26 to 29, 1932. This meeting will be held as usual in conjunction with the annual convention of the League of California Municipalities. Dr. W. B. Wells of Riverside, president of the department, has held many conferences with the members of the program committee and a tentative program has been prepared.

California State Medical Library.—The California State Medical Library began active operation on July 1, 1932, with the establishment of a southern division in Los Angeles in conjunction with the Los Angeles medical department of the University of California, 737 North Broadway, and in San Francisco in conjunction with the University of California Medical School Library. Subscriptions to 118 different special medical periodicals have been commenced by the two branches of the State Medical Library, and approximately 180 physicians in scattered communities throughout the state are already receiving these specialty journals by circulation through the two offices of the California State Medical Library.

Valuable Additions to Medical Library of State of California.—Dr. LeRoy Crummer, professor of medical history and bibliography in the University of California Medical School, has made a valuable addition of a number of rare old medical books, including one incunabulum (Gerson. *De pollutione*, Cologne, 1480) and a number of old prints relating to medical history, to the Crummer Collection of Medical History at the University of California Medical School Library. These new gifts from Doctor Crummer have been

given jointly to the University of California Medical School Library and the California State Medical Library.

Presidio Doctor to Give Courses for University of California School.—Announcement was made today by Dean Langley Porter of the University of California Medical School that Colonel C. J. Bartlett of the medical corps of the United States Army, now stationed at the Presidio, has been placed in charge of medico-military science and tactics at the Medical School.

As soon as the present generation of medical students is graduated medico-military science and tactics will be discontinued, unless national finances improve in the meantime. Colonel Bartlett will see that those students already started in the curriculum are allowed to complete it.

Colonel Bartlett is an alumnus of the University of California, having received his M. D. degree in 1898. His father, Columbus Bartlett, was a regent of the University of California from 1887 to 1896, and his uncle, Washington Bartlett, was a regent of the University and governor of the State of California.

Annual Scripps Metabolic Clinic Lecture.—Dr. David P. Barr, professor of medicine, Washington University, St. Louis, Missouri, has been selected to deliver the annual Scripps Metabolic Clinic lectures and clinics in La Jolla January 5, 6, and 7. The previously invited guests have been: Doctors W. McKim Marriott, Elliott P. Joslin, Cyrus C. Sturgis, Leonard G. Rowntree, Henry A. Christian, and O. H. Perry Pepper. The invited speakers are brought to La Jolla each year under the auspices of the Scripps Metabolic Clinic, and the clinics are given for the members of the San Diego County Medical Society. It has been found that members derive the most practical benefit from a series of afternoon bedside clinics which are of a practical nature.

The Committee on Arrangements is appointed from members of the society.

Pharmacopeial Admissions and Deletions.—The Subcommittee on Scope, of the Committee of Revision of the U. S. P. XI, has announced its first decisions on what is commonly spoken of as "admissions and deletions." The members of the subcommittee have diligently pursued their part in the work of revision and their discussions and conclusions cover almost four hundred pages of subcommittee bulletins. In addition to this, the subcommittee has held three personal conferences when titles were discussed and many decisions reached.

Lists are announced for the information of members of the medical and pharmaceutical professions, and the general chairman invites a free discussion of these first decisions. Comments received by him will be issued in the official circulars under the author's name and referred to the subcommittee for their consideration. General statements are of little help to the committee. Criticisms or comments should deal with specific items and offer, if possible, facts to support the opinion expressed.

Comments should be sent to the general chairman, E. Fullerton Cook, Forty-third Street and Woodland Avenue, Philadelphia, Pa.

Clinical Congress, American College of Surgeons.—The twenty-second annual Clinical Congress of the American College of Surgeons will be held in St. Louis, October 17-21, with headquarters at the Jefferson Hotel. . . . Hospital standardization conferences under the direction of Dr. Malcolm T. MacEachern will be held during the first four days. Four special programs have been prepared, dealing respectively with fractures, curability of cancer, industrial medicine and traumatic surgery, and the teaching of surgery and the surgical specialties. Medical motion pictures will be on daily exhibition. . . . On Friday evening the convocation will be held for the incoming Fellows, and the Fellowship address on "Some New Things in Physics" will be delivered by Robert Andrews Millikan, Ph.D., LL.D., Sc.D., Nobel Laureate. Dr. J. Bentley Squier will deliver the presidential address entitled, "The American College of Surgeons—Twenty Years of Ambitious Effort."

San Francisco Polyclinic and Post Graduate College.—The San Francisco Polyclinic and Post Graduate College at 1535 Jackson Street, an agency of the Community Chest, responding to numerous requests, has just installed a department of orthodontics, where children and adults afflicted with dental deformities may receive service at clinic rates. As all other clinics of this type in San Francisco are overloaded this is a welcome addition to the city's facilities. The San Francisco Polyclinic has been in existence for over forty years. It is a nonprofit organization, staffed by graduate physicians and dentists and devoted entirely to the public interests.

Dr. R. A. Cushman, Director of the Mendocino State Hospital.—Dr. Ruggles A. Cushman, a member of the Council of the California Medical Association, in July was appointed medical superintendent of the Mendocino State Hospital. Doctor Cushman was assistant superintendent of the institution some twenty-eight years ago. His health failing he went to Orange County, and now has returned to take up his former work. The Ukiah *Republican Press* of September 14 printed a two-column article concerning the institution, and from this the following quotation is taken: "The Rolph administration certainly should feel satisfied over the manner in which affairs at Talmage are being handled by Dr. R. A. Cushman. There is no getting away from the fact a lot of friction prevailed at the big institution until the coming of Doctor Cushman. . . . Doctor Cushman took charge in July. He has been at Talmage about sixty days, but the transformation is complete. Everything is working nicely. The atmosphere about the institution is friendly and all is now going along in perfect fashion. Doctor Cushman is admittedly the right man in the right place and Ukiah is very glad the turmoil is ended at Talmage. . . ."

A System of General Surgery in Motion Pictures.—A rather extensive series of motion pictures in which large numbers of major operations in surgery are outlined in considerable detail has been produced by Jacob Sarnoff, M.D., formerly associate in anatomy, Long Island College Hospital. Full information can be obtained by writing to the producer at 1406 Albermarle Road, Brooklyn, New York.

American Board of Obstetrics and Gynecology.—The next written examination of the American Board of Obstetrics and Gynecology will be held on Saturday, October 22, at 2 p. m., in nineteen different cities of the United States and Canada. In order to reduce traveling expenses for candidates special arrangement may be made through the secretary for taking the written examination at any city other than those regularly specified where there is a diplomate who can be empowered to conduct the examination. This arrangement does not apply to the general, clinical examina-

tion. The next general, oral and clinical examination is to be held in conjunction with the meeting of the Pacific Coast Society of Obstetrics and Gynecology at Los Angeles on December 7, provided there are sufficient applicants. . . . For application blanks and other information, address Dr. Paul Titus, Secretary, 1015 Highland Building, Pittsburgh, Pennsylvania.

Certified Milk Leaflet.—An excellent leaflet on methods and standards for the production of certified milk has been brought off the press by the American Association of Medical Milk Commission. Copies may be obtained by physicians who are interested by writing to the American Association of Medical Milk Commissions, 360 Park Place, Brooklyn, New York.

University Southern California Medical School.—"The Opening Lecture" of the School of Medicine of the University of Southern California was given by Dr. Howard C. Naffziger, professor of surgery, University of California Medical School, on Monday, September 19, at 11 a. m., in Porter Hall, School of Law Building, University Park, Los Angeles.

Meeting of the Southern California Medical Association.—The Southern California Medical Association will hold its semiannual meeting on October 28 and 29 at Riverside.

The meetings of this organization are open to all regular registered physicians of Southern California. A banquet will be held on Saturday evening, October 29, followed by a golf tournament on Sunday morning at the Riverside Country Club.

The following is an incomplete list of the program: Injection Treatment of Rectal Diseases—An Economic Problem—William H. Daniel, M. D., Los Angeles.

Renal Infections—J. J. Crane, M. D., Los Angeles; George F. Schenck, M. D., Los Angeles.

The Treatment of Peptic Ulcer with Gastric Mucin—Grant H. Lanphere, M. D., Los Angeles.

The Friedman Test for Pregnancy—George D. Maner, M. D., Los Angeles; Roy W. Hammack, M. D., Los Angeles.

Hypophyseal Infantilism—E. Kost Shelton, M. D., Santa Barbara.

The Irritable Colon—John H. Fitzgibbon, M. D., Associate Professor of Medicine, University of Oregon Medical School.

The Natural History and Course of Heart Disease—Major William C. Munly, U. S. A. Medical Corps.

Lipiodol Bronchography in Pulmonary Diseases—Dwight W. Davis, M. D., Los Angeles.

Lower Mortality and Earlier Recovery Resulting from Closer Cooperation Between Surgeon and Internist—H. D. Van Fleet, M. D., Los Angeles.

The Restoration of the Continuity of the Gastro-Intestinal Tract, with Report of Cases—Harlan W. Shoemaker, M. D., Los Angeles.

The Surgical Significance of Spontaneous Hematoma of the Rectus Abdominis Muscle—Ray B. McCarty, M. D., Riverside.

Spinal Anesthesia, Review of a Series—Thomas A. Card, M. D., Riverside.

The Physiology of the Heart. A talking motion picture. By Ajax Carlson and Arno B. Luckhart, Chicago, Illinois.

Los Angeles County Heart Association.—A series of clinical lectures on heart disease was arranged by the Los Angeles County Heart Association commemorating the one hundredth anniversary of the epochal work of Dominic John Corrigan on heart disease. The meetings were held on Friday, September 23, in morning, afternoon, and evening sessions, and on Saturday morning, September 24. Robert W. Langley, M. D., acted as secretary of the conference.

MEDICO-LEGAL

Practice of Dentistry by a Corporation

An interesting opinion was recently handed down by the California District Court of Appeal, First District, Division 2. It has to do with an appeal from a ruling made by the California Board of Dental Examiners. Because of its bearings to the practice of medicine by corporations, it is worthy of perusal by physicians. The following excerpt is from Volume 98, Number 26 of the *Journal of the American Medical Association*:

(Parker v. Board of Dental Examiners of State of California (Calif.), 1 P. (2d) 591)

"Painless Parker Dentist," a corporation, was organized to "conduct, own, operate and control dental offices." E. R. Parker, one of its incorporators, a licensed dentist, changed his name to "Painless" Parker, by court decree. Apparently, the corporation never acted in any respect other than to appoint Painless Parker, the incorporator named above, as its "manager and chief surgeon." The corporation never paid a dividend nor had any assets or funds on hand. Shortly after the incorporation of "Painless Parker Dentist," the Associated Dental Supply Company was organized as a corporation to deal in all kinds of dental supplies. When proceedings to revoke Painless Parker's license were instituted, fourteen dental offices seem to have been operating in California by dentists using "the E. R. Parker system," all owned or leased by the Associated Dental Supply Company, but these offices were in turn "leased" by that company to the Painless Parker Dentist corporation. Notwithstanding this subleasing of these offices, however, the Associated Dental Supply Company seems to have dealt directly with the managers of these local dental offices, and these managers deposited all the receipts of their respective offices to the credit of the Associated Dental Supply Company. Painless Parker, the individual, seems to have supervised the operation of all the offices for the benefit of the Associated Dental Supply Company. He employed a licensed dentist as the local manager of each office, and each such local manager employed licensed dentists to perform all necessary dental operations. Painless Parker Dentist, the corporation, was apparently the lessee of these offices, and the term "Painless Parker Dentist" appeared on the doors, windows and letterheads, although later the term "dentists using the E. R. Parker system" was substituted. But Painless Parker, the man, managed these offices apparently for the benefit of the Associated Dental Supply Company.

Painless Parker's conduct was deemed unprofessional by the California Board of Dental Examiners, and after notice and hearing it revoked his license to practice dentistry. Parker petitioned the superior court, city and county of San Francisco, to set aside the revocation, which the court refused to do. He then appealed to the District Court of Appeal, First District, Division 2, California.

Section 11, Act 2048, Deering's General Laws, 1923, the Dental Practice Act, declares the practice of dentistry to include the activities of anyone "who manages or conducts as manager, proprietor, conductor, or otherwise a place where dental operations are performed." Section 13 of that Act defines as unprofessional conduct "aiding or abetting any unlicensed person to practice dentistry unlawfully." The conduct of Parker, contended the board, was "unprofessional" in that he aided and abetted an unlicensed person, the Painless Parker Dentist corporation, to practice dentistry "by permitting, allowing and authorizing said corporation to conduct, own, operate, and control dental offices throughout the state . . . where dental operations were performed, and carry on the practice of dentistry therein." The board contended that conducting, owning, operating, and controlling dental offices constituted the practice of dentistry within the purview of Section 11 of the Dental Practice Act, supra; that a corporation cannot be licensed to practice dentistry; and that any licensed dentist who aids a corporation in performing any of the acts named above is aiding "an unlicensed person" to practice. Parker claimed, however, that the term "unlicensed person," as used in the prohibition of "aiding and abetting any unlicensed person to practice dentistry unlawfully," refers only to natural persons, who might be licensed under the Act, and not to a corporation owning or operating a dental office, and that the provisions of Section 11 are unconstitutional so far as they purport to prohibit an unlicensed person from managing the purely business or economic affairs of a dental office.

Bearing in mind, said the District Court of Appeal, that the ultimate purpose of the Dental Practice Act is to bring about and insure skill and proficiency in the practice of dentistry, Section 11 as construed by the board would be unconstitutional, because it would place unreasonable restrictions on the conduct of a lawful business. To support this statement the court quoted from *State v. Brown*, 37 Wash. 97, 79 P. 635, decided in 1905. In that case the Supreme Court of Washington had under consideration a provision of the Dental Practice Act of Washington, which made it a misdemeanor for an unlicensed person to "own, run, operate or cause to be oper-

ated, or manage a dental office." The Washington court said, in part, as follows:

"To own and manage property is a natural right, and one which may be restricted only for reasons of public policy, clearly discernible. . . . But, we are unable to say or perceive that the health, moral, or physical welfare of the public, or any of the personal or property rights of its individuals, are endangered by the ownership and management of a dental office, so long as those employed therein to do the actual dentistry work are qualified and licensed as by law required."

The Supreme Court of Washington in its exposition of the supposed unreasonableness of the Washington statute described the hypothetical case of a supposed widow of a licensed dentist, who assumed control and management of the business of the office of her deceased husband, and who, though she employed none but licensed dentists to perform the dental work, would be chargeable under the strict terms of the Act with practicing dentistry without a license. Other illustrations, said the California District Court of Appeal, might be added. "The manager or proprietor of a place where dental operations are performed," said the court, "would include the manager and owner of every hospital and clinic permitting such operations, the many charitable agencies maintaining clinics, the infirmaries and guilds maintained and operated by the students in universities and colleges, the many dental clinics maintained by parents' organizations for the benefit of school children, as well as the owners and managers of buildings where such operations are performed."

The California court found further authority for its holding, in *Messner v. Board of Dental Examiners*, 87 Calif. App. 199, 262 P. 58, decided in 1927, in which the court of the third appellate district annulled an order suspending the license of a dentist on the charge that an unlicensed person was the "manager" of his office. In that case the court said, in part, as follows:

"Cohn had charge of the purely business end of the dental office, . . . but there is no evidence that he had or exercised the slightest control or direction of the professional work performed in such office. . . . A reasonable construction of the quoted provisions of the statute appears to be that, to come within the terms thereof, one must in some manner to some extent, directly or indirectly, control or direct some professional service of the kind that dentists are licensed to render."

The court found itself in full accord with and quoted from *State Electro-Medical Institute v. State*, 74 Neb. 40, 103 N. W. 1078, decided in 1905, as follows:

"There was no necessity of legislation to prohibit corporations, as such, from practicing medicine. It is impossible to conceive of an impersonal entity 'judging the nature, character and symptoms of the disease,' or 'determining the proper remedy,' or giving or prescribing the application of the remedy to the disease. Members of the corporation, or persons in its employ, might do these things, but the corporation itself is incapable to do them. The qualification of a medical practitioner is personal to himself. The intention of the law is that one who undertakes to judge the nature of a disease or to determine the proper remedy therefor, or to apply the remedy, must have certain personal qualifications; and, if he does these things without having complied with the law, he is subject to its penalties. Making contracts is not practicing medicine. Collecting the compensation therefor is not practicing medicine, within the meaning of this statute. No professional qualifications are requisite for doing these things."

It follows, said the California court, that when the California legislature declared it to be unprofessional for a licensed dentist to aid an unlicensed person to practice dentistry, it did not contemplate aid to a corporation, which itself could not become licensed under the Act and which could do no more than conduct the business side of the office. Since a corporation cannot practice dentistry, Parker could not have aided it to practice and could not have been guilty of unprofessional conduct in this respect as charged by the board.

The Board of Dental Examiners charged further that Parker had been guilty of unprofessional conduct in that he aided an unlicensed person, Ramona McShane, to practice dentistry unlawfully by permitting her to participate in the profits of the dental office operated by "Painless Parker Dentist, a corporation." The board, to support this charge, introduced evidence that some years ago the Associated Dental Supply Company executed a trust agreement and sold trust certificates in small denominations. Ramona McShane purchased a number of these certificates, and dividends were later paid to certificate holders. As the Painless Parker Dentist corporation leased offices from the Associated Dental Supply Company, the board, after its hearing in the case, held that Ramona McShane participated in the profits of the Painless Parker Dentist corporation; that she therefore practiced dentistry unlawfully, and that Painless Parker aided and abetted her in so doing. But, said the District Court of Appeal, it would be just as reasonable to hold that every stockholder of a bank which has lent money to the owner of a building in which some dentist has practiced without a license is an aider and abettor in the unlawful practice of dentistry. To interpret the statute as contended for by the board would make it unconstitutional for the reasons stated above. If, however, the statute is given a reasonable and constitutional interpretation, the evidence demonstrates that Ramona McShane was not practicing dentistry within any sound construction of the Act.

The board held also, after its hearing, that Painless Parker had been guilty of unprofessional conduct in that

he practiced under an assumed or fictitious name in the use of the term "Painless Parker Dentist." But, said the court, the name Painless Parker Dentist was not fictitious. Parker was practicing under the name given him by decree of court, which also was the name under which he was licensed to practice by the board.

For the reasons stated above, the order of the California Board of Dental Examiners suspending Parker's license to practice dentistry was reversed.

* * *

Physicians' Witness Fees

The Washington Supreme Court holds, by a divided court, 5 to 4, that a plaintiff in a personal injury action who voluntarily submits to an examination by a doctor at the instance of the defendant may call the doctor as a witness and interrogate him, not only as to the facts which he discovered upon the examination, but also as to his opinion concerning the nature and extent of the injury, without compensation other than the ordinary witness fees. The rule according to the decisive weight of authority, the court says, is that an expert witness is not entitled to demand additional compensation other than the ordinary witness fees, unless special services other than attendance to give testimony on the trial are required in order to enable the witness to testify.

In this case the doctor having testified to the facts which he discovered on the examination of the plaintiff in a deposition, refused to give his opinion as to the nature and extent of the injuries. The court ordered him to give such opinion or be adjudged in contempt of court. The doctor sought to be relieved from the order. The writ was denied. The court said: "We see no reason why the same rule should not apply as to the doctor's opinion as is applied to the facts which were discovered by his examination. The opinion would be based upon the facts disclosed by the examination to which the adverse party to the one employing the doctor voluntarily submitted. This is not a case where the adverse party seeks to call a witness employed by the other party and interrogate him as to matters which require special preparation without the party calling him having in any manner cooperated." . . . The court pointed out that the doctor did not demand witness fees, and that failure to pay or tender them was not the reason given for his refusal to testify. The court therefore did not pursue that question further.

Dissenting opinion by French, J., said in part: "I do not think a physician or other professional man can be called as an expert witness and required to answer purely hypothetical questions involving his opinion only without some arrangements being made as to his special fees." . . . Holcomb, J., specially concurring with the majority opinion, said that if the expert has been unable to reach a conclusion from his examination, he has the privilege of so stating, under his oath, without being deemed in contempt." State ex rel. Berge v. Superior Court, 281 Pac. 355.—*Medical Journal and Record*.

* * *

The Law of Libel

The editing of a journal calls for a certain precautionary attitude which few recognize apart from the editor himself. We have had occasion to delete expressions and statements in contributed papers which, even though true, if published, would be liable to cause trouble. It is an expensive and uncertain matter to be called into court even to prove that one is right. In the matter of libel, discretion is the better part of valor. Bresnan, the counsel for the Medical Society for the State of New York, writing in the *New York State Journal of Medicine*, quotes the libel law, which defines libel as, "A malicious publication, by writing, printing, picture, effigy, sign or otherwise than by mere speech, which exposes any living person, or the memory of any person deceased, to hatred, contempt, ridicule or obloquy, or which causes, or tends to cause, any person to be shunned or avoided, or which has a tendency to injure any person, corporation or association of persons, in his or their business or occupation is a libel."

This has been carried so far as to be construed to apply to biographies even of persons long dead, if their descendants felt it worth while to prosecute.

Another matter on which editors must be on their guard is that of violating copyright. If the writer of a paper, for instance, finds it advantageous to make a lengthy quotation, he will do well to write the publisher or author of the article for permission. This is usually granted. However, to quote at length without this permission is violating the law of copyright and one becomes amenable to the penalties of the law should the owner feel it expedient to prosecute. Copyright privileges cover twenty-eight years, so that in quoting from works published beyond this time, mere mention of the source of the material is sufficient. Recent books, however, are very particular in the matter and stipulate that no part of the book may be quoted without the permission of the publisher. With this permission given it is customary to acknowledge it by a brief line to that effect.—*Journal of the Michigan Medical Society*, September, 1932.

STERILIZATION*

Sterilization in the Light of Criminal Law.—The question is being raised more and more frequently as to whether, with reference to birth regulation and the securing of a healthy posterity, in certain cases compulsory sterilization should be applied, or as to whether sterilization by a physician at the request and with the consent of the person to be sterilized is, or should be, permissible under the law. . . .

Supporters of compulsory sterilization call attention to the examples of various North American states in which, for a number of years, sterilization has been permitted, and emphasize that it is certainly to the interest of public welfare and public health that certain persons who are subnormal mentally or physically be prevented by sterilization from having offspring that are most likely to be a burden to society. In support of this, figures are cited. In 1893 there were 834 living descendants of an alcohol addict, a woman born in 1810, of which number 181 were prostitutes; 142 were beggars, 76 were major criminals, and 7 were murderers. Prussia was obliged to spend for this family, by way of prison costs, social aid and the like, the sum of \$1,200,000. . . .

In spite of the arguments cited, Ebermayer does not favor the introduction of compulsory sterilization. It constitutes a drastic negation of the right of self-determination, which the legislator should not consent to, since the effects of sterilization on the character development of the person sterilized, and on the sexual impulse, are by no means fully understood. Furthermore, the "laws" of hereditary transmission are not so fully developed as yet that one can establish with certainty, in every case, whether or not an inferior progeny affected with moral and criminal taints is to be expected. This is also the predominant standpoint of medical science, as Ebermayer has shown in "Der Arzt im Recht."

It is quite another question as to whether or not a physician should be granted the right to perform sterilization in all cases in which the person to be sterilized requests it—or at least if certain preconditions are met. At present such a permission is granted only when there are suitable therapeutic indications for sterilization, which is seldom the case. Under such circumstances the physician, if he sterilizes with the consent of the patient, is not amenable to punishment; but if he acts without, or contrary to, the desire of the patient, he is guilty of a bodily injury punishable by law.

A sterilization for any other than therapeutic reasons—for example, for social or eugenic reasons—a physician may not, according to existing laws, undertake, even though the party immediately affected expressly demands such intervention. In medical circles, however, contrary opinions are frequently advanced,

* See also editorial comments in this issue of California and Western Medicine, page 261.

and sometimes also in legal circles; it is admitted that the physician is punishable if he acts without, or against, the desire of the other party, but it is held that he is not punishable if the other party demands sterilization, or at least consents to it. This opinion is wrong. Sterilization for other than therapeutic purposes is, according to existing German law, an objectively illegal severe bodily injury. The question may be raised as to whether the law should be changed. As to sterilization for eugenic reasons, doubt may be expressed as to whether the "laws" of hereditary transmission are sufficiently developed and understood to enable an examining board to decide with certainty, in a given case, whether or not a sterilization is indicated. On the other hand, an opportunity should be afforded a physician to perform sterilization with impunity if certain preconditions of a social nature obtain and the person to be sterilized makes such a request. For example, it does not appear reasonable to deny a physician the right to sterilize at her request a woman without adequate income who already has seven children that she cannot properly care for; yet, as the law now reads, he is subject to punishment if he complies with her request. The draft of a new general penal code has introduced here a good compromise: it provides that the person committing a bodily injury with the consent of the injured subject is amenable to punishment only in case the act contravenes good morals. If this provision is approved, sterilization with the consent of the person to be sterilized may be performed with impunity in all cases in which it appears reasonable and proper, as, for example, in the case just cited.—*Berlin News Letter in Journal of the American Medical Association*, Vol. 99, No. 5.

TWENTY-FIVE YEARS AGO*

EXCERPTS FROM OUR STATE MEDICAL JOURNAL

Volume V, No. 10, October, 1907

From some editorial notes:

Short Papers.—It is mighty seldom that a man has anything to present to a gathering of medical men which cannot be said in ten, or at most, fifteen minutes. Long, tiresome papers are a burden to the flesh of the listener and are of small profit to him. This is said with the next meeting of the state society in mind and at the suggestion of some members of the Committee on Scientific Work. The reading of endless reports of cases has no place in the program of a learned society. The meat of the paper should be gathered into an abstract which will present the facts, and the tedious details, only useful for reference, comparison or subsequent study, should be published but not read. So, too, with the paper which deals with an elaborate history of some complication, compiled from the already enormous literature on the subject or based upon long quotations from other papers previously read. Such things are entirely out of place at the time of a meeting, though they are occasionally useful for reference. It is to be hoped that the papers at the next meeting of the society will be short, sharp, sweet and to the point, and that the discussions will in the main follow the papers in these highly-to-be-desired characteristics. . . .

General Sanitation.—The discussion by the San Francisco County Medical Society, at a recent meeting, of the plague situation in that city points out most markedly the general lack of interest in or attention to the simplest sanitary measures, not alone on the part of the general public, but also by our profession. . . . True, we have now a Pure Food Commission of the State Society, and we understand that it is doing splendid work, but that is only a part of the work that

*This column strives to mirror the work and aims of colleagues who bore the brunt of state society work some twenty-five years ago. It is hoped that such presentation will be of interest to both old and recent members.

should be done everywhere. Each and every county medical society should be the real sanitary commission for that county, if not indeed the actual County Board of Health; and it should command the respect and support of the citizens of the county. . . .

Direct Illustration.—The plague in San Francisco is another illustration. The city and the national governments are spending many thousands of dollars each month in an effort to counteract the negligence of past years. A modest sum intelligently expended by an honest and nonpolitical Board of Health continuously would keep the city clean and render it almost immune to infection. Fortunately for the whole state, and indeed for the country, the Marine Hospital Service and an honest and intelligent Board of Health are now working together and have a firm grasp of the situation; there is no danger of a plague epidemic, though there will undoubtedly be cases reported for a number of months to come. That is all right so far as San Francisco is concerned, but what of other sections in the state? . . .

How to Do It.— . . . Therefore, it is vitally necessary, if we are to fulfill our obligations to the public, that we manifest our existence by getting interested in politics so far as educating the voters on these matters may be concerned. . . . Experience has shown that legislators are most anxious to learn and most ready to listen to advice before they are nominated or elected. It is, perhaps, not so singular that this should be so; but it is so, nevertheless. Therefore, before the aspirant is nominated, or before he is elected, it is well to talk with him about these matters of public health and show him what they mean to his community. . . . You know now at least some one or more men who will probably aspire to nomination for the next legislature. . . .

From an article on "Surgical Treatment of Gastropnoia" by J. Henry Barbat, M. D., San Francisco.

The first recorded operative procedure for the cure of gastropnoia was by Duret of Lille in 1894. The operation consisted in sewing the stomach to the anterior abdominal wall, and was done for an extreme case of gastropnoia. . . .

CALIFORNIA STATE DEPARTMENT OF PUBLIC HEALTH

By GILES S. PORTER, M. D.

Director

City and County Health Officers of California, by Counties—

ALAMEDA COUNTY	Dr. John A. Azevedo, Hayward
Alameda	Dr. R. W. Sanders
Albany	Dr. Martin J. Lacey
Berkeley	Dr. Frank L. Kelly
Emeryville	Dr. George Rothganger
Hayward	Nelson E. Clemens, D. V. M.
Livermore	Dr. Paul E. Dolan
Oakland	Dr. Arthur Hieronymus
Piedmont	Dr. Harry J. Smith
Pleasanton	Dr. J. Hal Cope
San Leandro	Dr. Luther Michael
ALPINE COUNTY	Dr. F. H. Harrison, Minden, Nevada
AMADOR COUNTY	Dr. G. L. Lynch, Amador City
Amador City	Mr. Ben White
Jackson	Mr. Earl J. Gaverini
Plymouth	Mr. Pete Laverone
Sutter Creek	Mr. Grant Shealar
BUTTE COUNTY	Dr. B. Caldwell, Biggs
Biggs	Mr. Leon Brink
Chico	Mr. Charles E. Tovee
Gridley	Dr. W. S. Lavy
Oroville	Mr. A. A. Davis
CALAVERAS COUNTY	Dr. George P. Cooper, Angels Camp
Angels Camp	Dr. E. W. Weirich
COLUSA COUNTY	Dr. G. W. Desrosier, Colusa
Colusa	Dr. George W. Desrosier
Williams	Dr. Charles F. Keith
CONTRA COSTA COUNTY	Dr. I. O. Church, Martinez
Antioch	Dr. J. B. Blackshaw
Concord	Under County Supervision
El Cerrito	Dr. F. L. Horne
Hercules	Under County Supervision

Martinez	Under County Supervision	San Anselmo	Dr. M. S. Edgar
Pinole	Under County Supervision	San Rafael	Dr. H. M. Beck
Pittsburg	Dr. H. E. Peters	Sausalito	Dr. C. F. Larson
Richmond	Dr. Charles R. Blake	MARIPOSA COUNTY	Dr. John S. Webster, Mariposa
Walnut Creek	Under County Supervision	Yosemite	Dr. Hartley G. Dewey
DEL NORTE COUNTY	Dr. W. Stageman, Crescent City	MENDOCINO COUNTY	Dr. H. O. Cleland, Ukiah
Crescent City	Dr. F. Stump	Fort Bragg	Dr. Royal Scudder
EL DORADO COUNTY	Dr. A. A. McKinnon, Placerville	Point Arena	Mr. M. S. Scott
Placerville	Mr. Glen D. Stevens	Potter Valley	Under County Supervision
FRESNO COUNTY	Dr. James E. Pendergrass, Clovis	Ukiah	Dr. J. H. Hansen
Clovis	Dr. M. S. McMurtry	Willits	Dr. Raymond Babeock
Coalinga	Mr. W. T. Hayes	MERCED COUNTY	Dr. James A. Parker, Atwater
Firebaugh	Mr. Frank Borrecco	Gustine	Dr. A. W. Gustafson
Fowler	Mr. Retel L. H. Fernside	Livingston	Mr. F. M. Ecclefield
Fresno	Dr. C. Mathewson	Los Banos	Dr. L. R. Hillyer
Kingsburg	Dr. Ewald A. Larson	Merced	Dr. A. S. Parker
Parlier	Dr. James E. Pendergrass	MODOC COUNTY	Dr. John Stille, Alturas
Redley	Dr. R. E. Allen	Adin	Under County Supervision
Sanger	Dr. Benjamin H. Viau	Alturas	Dr. W. E. Coppedge
Schna	Dr. R. W. Binkley	MONO COUNTY	Dr. Gilbert A. Kelley, Bridgeport
GLENN COUNTY	Dr. F. M. Lawson, Willows	MONTEREY COUNTY	Dr. Roy Macleay, Fortier, Salinas
Orland	Dr. T. H. Brown	Carmel	Under County Supervision
Willows	Dr. Elta S. Lund	King City	Under County Supervision
HUMBOLDT COUNTY	Dr. Allen R. Watson, Eureka	Monterey	Under County Supervision
Arcata	Dr. B. Cooper	Pacific Grove	Under County Supervision
Blue Lake	Dr. George P. Purlenky, Arcata	Salinas	Miss Marie Fidel
Eureka	Dr. W. J. Quinn	Soledad	Under County Supervision
Ferndale	Dr. O. B. Barron	NAPA COUNTY	Dr. Robert S. Northrop, Napa
Fortuna	Dr. H. W. Comfort	Calistoga	Mr. George C. Locey
IMPERIAL COUNTY	Dr. Warren Fox, El Centro	Napa	Mr. C. C. Hackett
Brawley	Dr. J. L. Parker	St. Helena	Mr. C. C. Johnson
Calxico	Dr. W. T. Talbott	NEVADA COUNTY	Dr. Carl P. Jones, Grass Valley
Calipatria	Dr. J. H. Hutton	Grass Valley	Dr. Carl P. Jones
El Centro	Under County Supervision	Nevada City	Mr. George H. Calanan
Holtville	Dr. John D. Keye	ORANGE COUNTY	Dr. K. H. Sutherland, Santa Ana
Imperial	Dr. H. V. Gray	Anaheim	Under County Supervision
Westmoreland	Under County Supervision	Brea	Under County Supervision
INYO COUNTY	Dr. Harvey W. Crook, Bishop	Fullerton	Under County Supervision
Bishop	Mr. C. A. Collins	Garden Grove	Under County Supervision
KERN COUNTY	Dr. Joe Smith, Bakersfield	Huntington Beach	Under County Supervision
Bakersfield	Dr. P. J. Cuneo	Laguna Beach	Under County Supervision
Delano	Under County Supervision	La Habra	Under County Supervision
Maricopa	Dr. K. D. Cook	Newport Beach	Under County Supervision
Taft	Dr. Oran Newton	Orange	Under County Supervision
Tehachapi	Dr. R. G. Doupe	Placentia	Under County Supervision
KINGS COUNTY	Dr. C. G. Newbecker, Hanford	San Clemente	Under County Supervision
Corcoran	Dr. J. H. Van Vorhis	Santa Ana	Under County Supervision
Hanford	Dr. J. A. Crawshaw	Seal Beach	Under County Supervision
Lemoore	Dr. W. P. Byron	Tustin	Under County Supervision
LAKE COUNTY	Dr. W. E. Upton, Kelseyville	PLACER COUNTY	Dr. D. M. Kindopp, Colfax
Lakeport	Mr. L. C. McCloud	Auburn	Dr. Theodore Snypp
LASSEN COUNTY	Dr. C. I. Burnett, Susanville	Colfax	Dr. D. M. Kindopp
Susanville	Dr. George Scott Martin	Lincoln	Mr. F. R. Elder
LOS ANGELES COUNTY	Dr. J. L. Pomeroy, Los Angeles	Rocklin	Under County Supervision
Alhambra	Under County Supervision	Roseville	Dr. R. H. Eveleth
Arcadia	Under County Supervision	PLUMAS COUNTY	Dr. B. J. Lasswell, Quincy
Avalon	Under County Supervision	RIVERSIDE COUNTY	Dr. W. B. Wells, Riverside
Azusa	Under County Supervision	Banning	Mr. R. H. Samuel
Bell	Under County Supervision	Beaumont	Mr. W. J. Atkinson
Beverly Hills	Dr. Charles F. Nelson	Blythe	Dr. W. H. Chapman
Burbank	Dr. T. H. Ransom	Corona	Dr. W. S. Davis
Claremont	Under County Supervision	Elsinore	Dr. S. J. Brimhall
Compton City	Under County Supervision	Hemet	Mr. A. J. Berg
Covina	Under County Supervision	Indio	Dr. R. M. Gray
Culver City	Under County Supervision	Perris	Dr. H. J. Wickman
El Monte	Under County Supervision	Riverside	Dr. W. B. Wells
El Segundo	Under County Supervision	San Jacinto	Dr. W. L. Chilcott
Glendale	Under County Supervision	SACRAMENTO COUNTY	Dr. Hugh Beattie, Elk Grove
Glendora	Under County Supervision	Isleton	Dr. J. H. Leimbach
Hawthorne	Under County Supervision	North Sacramento	Dr. W. E. Weddle
Hermosa Beach	Under County Supervision	Sacramento	Dr. Herbert F. True
Huntington Park	Under County Supervision	SAN BENITO COUNTY	Dr. L. C. Hull, Hollister
Inglewood	Under County Supervision	Hollister	Mr. Fred A. Earle
La Verne	Under County Supervision	San Juan Bautista	Mr. E. Zanetta
Long Beach	Dr. G. E. McDonald	SAN BERNARDINO COUNTY	Dr. Edwin B. Godfrey, San Bernardino
Los Angeles	Dr. C. W. Decker	Barstow	Under County Supervision
Lynwood City	Under County Supervision	Chino	Dr. W. C. Miller
Manhattan Beach	Under County Supervision	Colton	Dr. J. A. Champion
Maywood	Under County Supervision	Needles	Dr. W. G. Morton
Monrovia	Under County Supervision	Ontario	Dr. C. L. Emmons
Montebello	Under County Supervision	Redlands	Dr. Harold G. Gentry
Monterey Park	Under County Supervision	Rialto	Dr. L. P. Barbour
Pasadena	Dr. J. D. Dunshee	San Bernardino	Dr. W. W. Fenton
Pomona	Under County Supervision	Upland	Dr. John B. Craig
Redondo Beach	Under County Supervision	SAN DIEGO COUNTY	Dr. A. M. Lessem, San Diego
San Fernando	Under County Supervision	Chula Vista	Dr. F. E. Ashcroft
San Gabriel	Under County Supervision	Coronado	Dr. Ernest B. Porter
San Marino	Dr. Lemoine Willis	East San Diego	Under County Supervision
Santa Monica	Under County Supervision	El Cajon	Mr. Charles F. Richardson
Sierra Madre	Under County Supervision	Escondido	Dr. C. A. S. Kemper
Signal Hill	Dr. R. J. Striegel	La Mesa	Under County Supervision
South Gate	Under County Supervision	National City	Under County Supervision
South Pasadena	Dr. E. J. Johnston	Oceanside	Under County Supervision
Torrance	Under County Supervision	San Diego	Dr. Alex M. Lessem
Tujunga	Under County Supervision	SAN FRANCISCO COUNTY	Dr. J. C. Geiger, San Francisco
Vernon	Dr. H. F. Becker	SAN JOAQUIN COUNTY	Dr. J. J. Sippy, Stockton
West Covina	Under County Supervision	Lodi	Under County Supervision
Whittier	Under County Supervision	Manteca	Under County Supervision
MADERA COUNTY	Dr. Lee A. Stone, Madera	Stockton	Under County Supervision
Chowchilla	Dr. Howard G. Martin	Tracy	Under County Supervision
Madera	Under County Supervision	SAN LUIS OBISPO COUNTY	Dr. Allen F. Gillihan, San Luis Obispo
MARIN COUNTY	Dr. J. H. Kuser, San Rafael	Arroyo Grande	Under County Supervision
Belvedere	Dr. C. W. Clark, San Rafael	Paso Robles	Under County Supervision
Corte Madera	Dr. L. L. Robinson, San Rafael	San Luis Obispo	Under County Supervision
Fairfax	Dr. L. L. Robinson, San Rafael		
Larkspur	Dr. L. L. Robinson, San Rafael		
Mill Valley	Mr. Will Falley		
Ross	Dr. George H. Willcutt		

SAN MATEO COUNTY		Dr. F. Holmes Smith, San Bruno
Atherton.....	Mr. J. E. Farrell (Acting)	
Belmont.....	Mr. S. M. St. John	
Burlingame.....	Dr. Matthew P. Desmond	
Colma.....	Under County Supervision	
Daly City.....	Dr. Ferdinand Callisen	
Hillsborough.....	Mr. C. M. Hirschev	
Menlo Park.....	Mr. Edward H. Hart	
Redwood City.....	Mr. Con Drathman	
San Bruno.....	Dr. F. Holmes Smith	
San Carlos.....	Mr. O. W. Stewart	
San Mateo.....	Dr. W. C. McLean	
South San Francisco.....	Dr. J. O. McMills	
SANTA BARBARA COUNTY		Dr. R. C. Main, Santa Barbara
Lompoc.....	Under County Supervision	
Santa Barbara.....	Dr. W. H. Eaton	
Santa Maria.....	Under County Supervision	
SANTA CLARA COUNTY		Dr. C. M. Burchfield, San Jose
Alviso.....	Dr. J. I. Beattie	
Gilroy.....	Under County Supervision	
Los Gatos.....	Under County Supervision	
Mayfield.....	Under City of Palo Alto	
Morgan Hill.....	Dr. R. L. Newbold	
Mountain View.....	Under County Supervision	
Palo Alto.....	Mr. Louis Olsen	
San Jose.....	Dr. H. C. Brown	
Santa Clara.....	Under County Supervision	
Sunnyvale.....	Under County Supervision	
Willow Glen.....	Under County Supervision	
SANTA CRUZ COUNTY		Dr. Samuel B. Randall, Santa Cruz
Santa Cruz.....	Dr. J. T. Harrington	
Watsonville.....	Dr. George P. Tolman	
SHASTA COUNTY		Dr. B. F. Saylor, Redding
Redding.....	Mr. Leslie Engram	
SIERRA COUNTY		Dr. Carl C. Sutton, Downieville
Downieville.....	Under County Supervision	
Loyalton.....	Mr. George L. Snyder	
SISKIYOU COUNTY		Dr. Charles Plus, Yreka
Dorris.....	Dr. Paul P. Baron	
Dunsmuir.....	Mr. T. B. Wright	
Etna.....	Dr. E. W. Bathurst	
Fort Jones.....	Mr. John Schary	
Montague.....	Mr. Frank French	
Mt. Shasta.....	Dr. Paul Wright	
Yreka.....	Dr. Charles Plus	
SOLANO COUNTY		Dr. W. C. Jenney, Vacaville
Benicia.....	Dr. P. B. Fry	
Dixon.....	Mr. H. C. Grove	
Fairfield.....	Dr. H. V. Clymer	
Rio Vista.....	Mr. W. E. Godsell	
Suisun.....	Dr. A. P. Finan	
Vacaville.....	Mr. O. E. Alley	
Vallejo.....	Dr. E. A. Peterson	
SONOMA COUNTY		Dr. P. A. Meneray, Santa Rosa
Cloverdale.....	Dr. Ira A. Wheeler	
Healdsburg.....	Dr. J. Walter Seawell	
Petaluma.....	Dr. Henry S. Rogers	
Santa Rosa.....	Mr. E. J. Helgren	
Sebastopol.....	Dr. Chester Marsh	
Sonoma.....	Dr. John P. Tate	
STANISLAUS COUNTY		Dr. E. F. Reamer, Modesto
Ceres.....	Under County Supervision	
Modesto.....	Under County Supervision	
Newman.....	Dr. H. V. Armistead	
Oakdale.....	Under County Supervision	
Patterson.....	Mr. C. Lindgren	
Silverbank.....	Under County Supervision	
Turlock.....	Dr. C. E. Pearson	
SUTTER COUNTY		Dr. T. P. Peery, Yuba City
Yuba City.....	Dr. J. H. Barr	
TEHAMA COUNTY		Dr. E. E. Thompson, Red Bluff
Corning.....	Dr. Caroline Howes	
Los Molinos.....	Dr. J. H. Belyea	
Red Bluff.....	Dr. F. J. Bailey	
TRINITY COUNTY		Dr. David B. Fields, Weaverville
TULARE COUNTY		Dr. A. W. Preston, Visalia
Dinuba.....	Dr. Edgar R. Brigham	
Exeter.....	Dr. Donald C. Fowler	
Lindsay.....	Dr. Annie L. Bond	
Porterville.....	Dr. Philip S. Barber	
Tulare.....	Dr. E. R. Zumwalt	
Visalia.....	Dr. A. W. Preston	
TUOLUMNE COUNTY		Dr. William L. Hood, Sonora
Sonora.....	Dr. William L. Hood	
VENTURA COUNTY		Dr. A. A. Maulhardt, Oxnard
Fillmore.....	Under County Supervision	
Ojai.....	Under County Supervision	
Oxnard.....	Under County Supervision	
Santa Paula.....	Under County Supervision	
Ventura.....	Dr. J. A. DeSerpa	
YOLO COUNTY		Dr. Fred R. Fairchild, Woodland
Davis.....	Under County Supervision	
Winters.....	Under County Supervision	
Woodland.....	Under County Supervision	
YUBA COUNTY		Dr. J. H. Barr, Marysville
Marysville.....	Dr. R. Hanagan	
Wheatland.....	Mr. H. Reithardt	

On the Value of Self-Restraint in the Interpretation of Published Maternal Mortality Statistics.—The prevention of maternal deaths and the saving of infant lives are public health activities which have a deep appeal in spite of the fact that we are sometimes judged as being a callous, material nation. This

deeply rooted interest in the betterment of conditions relative to child-bearing has created a desire to determine how many deaths are occurring in proportion to the risk involved and how these deaths may be prevented. If certain cities are showing a reduction in maternal mortality over a period of years, what is causing the reduction? Is it because of well-organized health service? Are many pregnancies hospitalized? Are there few or many midwives practicing? The answers to these questions are popularly assumed to lie in the association of maternal mortality with the presence or absence of the above factors. Just what do we mean by maternal mortality? Many conclusions which are propounded are more apparent than real. It is with this in mind that the following difficulties of interpretation are presented.

Maternal mortality may be analyzed in a number of ways; *i. e.*, the number of maternal deaths may be expressed in proportion to the total population, in proportion to the total number of women of child-bearing age, or married women of child-bearing age; in proportion to the number of live births registered, or the number of live and stillbirths together. . . . The *real* maternal mortality rate would be obtained if it were possible to divide the number of maternal deaths by the *total* number of births, since every separation of an embryo, alive or dead, from the mother implies a chance of death. In practice, however, this is impossible. The best approximation is the maternal risk rate, which is obtained by dividing the maternal deaths by the total still and live births as defined by the laws of the particular State whose rate is being computed. The regulations which have to do with the registration of stillbirths in various states of the United States vary enormously.

A fetus is considered stillborn and registrable in 18 states after 4 months; in 2 states after 4½ months; 3 states after 5 months; 3 states after 6 months; 2 states after 28 weeks; 3 states after 7 months; 2 states have no definite rule; 1 state, any product of gestation that can be recognized must be registered.

Since stillbirths are not uniformly defined and are poorly registered, it is customary to calculate the rate using live births only as a divisor. It is at once apparent that this overweights the maternal mortality rate since there are many deaths for which there are no corresponding live births. . . .

Up to this point, we have assumed that the term "maternal death" has been accurately defined. What is meant by "maternal death"? Are deaths which occur before the fourth, fifth, sixth or seventh month of gestation considered as related to the puerperal state? What about a death occurring after one month postpartum? Are those deaths included which are complicated by some other infection such as small-pox, diphtheria, or tuberculosis, or cancer? The latter causes are usually given preference over those of the puerperal state according to the International List of Joint Causes of Death. This list is used by the Bureau of the Census in the determination of primary causes which are tabulated in the published mortality statistics. In a study made by Dr. Susan McCoffin and her associates of the maternal mortality in Massachusetts, it was found that out of 984 deaths judged by the investigators from information obtained from the attending physician and the hospital as being from puerperal causes, 10 per cent deviated from the primary cause given in the death certificate.

It becomes apparent that a definite statement of just what constitutes a maternal death is difficult to make. Many causes as stated on certificates are judgments made by the physician at the time of the death of the patient, sometimes influenced by regulation, and almost always by common local practice. . . .

In conclusion, before the effectiveness of any preventive measure, or service at the time of delivery can be evaluated, much less measured, in terms of the reduction of total maternal mortality, general agreement must be reached in regard to the definition of terms. At the present time this necessity is neither fully recognized nor comprehended.—From an address by Eschscholtzia L. Lucia, Ph. D., University of California.

BOARD OF MEDICAL EXAMINERS OF THE STATE OF CALIFORNIA

By CHARLES B. PINKHAM, M. D.

Secretary

Results of Board of Medical Examiners' Examination, San Francisco, July 12 to 14, 1932.—The Board of Medical Examiners of the State of California reports results of the written examination held in San Francisco, July 12 to 14, 1932. The examination covered nine subjects, and included ninety questions for physician and surgeon applicants. An average of 75 per cent is required to pass. An allowance of one per cent added to the general average is allowed by the medical practice act for each year of medical practice under a license granted elsewhere than in California, provided the applicant has not fallen below 60 per cent in more than one subject.

A total of 124 applicants wrote the examination.

One hundred and fifteen (92.8 per cent) of the graduates of medical schools passed the examination and nine (7.2 per cent) failed, of whom three were graduates of foreign medical schools.

The following colleges were represented:

College	PASSED	Year of Graduation	Per Cent
Boston University School of Medicine	1931	79	
College of Medical Evangelists	1932	90 3/9, 88 2/9	
83 2/9, 85 4/9, 88 5/9, 88 7/9, 85,	84 2/9, 90 6/9, 90 6/9		
85 2/9			
Creighton	1932	86 7/9, 76 6/9	
		79, 85 1/9	
Hahnemann Medical College	1932	86 7/9	
Harvard	1929	85 2/9	
	1931	87 8/9	
Johns Hopkins	1929	88 7/9	
	1931	85 1/9	
Loyola	1932	86	
Northwestern	1931	81 5/9, 78 7/9	
	1932	85 4/9, 87 3/9	
Queens University, Ireland	1915	77 4/9	
Rush	1932	86, 85 6/9	
		89 2/9	
Stanford	1930	86 4/9, 82 1/9	
	1932	83 6/9, 81	
86 3/9, 81 6/9, 85 3/9, 87,	81 1/9, 81 6/9, 85 4/9, 79		
85 8/9, 82 3/9, 84 6/9, 81 4/9, 80 8/9,	82 7/9, 85 3/9, 83 8/9		
78 1/9, 88 7/9, 86 4/9, 79 3/9, 79 8/9, 81 8/9, 83,	83 6/9		
81, 78 8/9			
University of California	1931	75 8/9	
	1932	88, 79 3/9	
83 4/9, 88 3/9, 89 8/9, 83 4/9, 87 4/9, 89 1/9,	87 5/9, 82 2/9		
86 7/9, 83,	87 8/9, 81 7/9, 83 2/9, 82 7/9,	86, 84	
79 7/9, 84 4/9, 86 5/9, 83 7/9, 88,	80 1/9, 79,	77 5/9	
80 1/9, 81 5/9, 85 7/9, 80 1/9, 85 4/9, 86,	82 7/9, 83 8/9		
84 4/9, 77 8/9, 82 6/9, 80 7/9, 87 7/9, 85 3/9,	88 1/9, 83 1/9		
University of Colorado	1932	78 8/9	
University of Iowa	1922	77 5/9	
	1929	84 5/9	
	1931	78 7/9	
University of Kansas	1931	81 6/9	
University of Minnesota	1931	84 3/9	
University of Nebraska	1931	79 3/9	
University of Oregon	1931	77 5/9	
University of Pennsylvania	1931	87 1/9	
Washington University	1931	77 4/9, 77 4/9	
	1932	82 5/9	
FAILED			
Carl-Francis University, Faculty of Medicine, Austria	1928	57 5/9	
Creighton	1932	*75 5/9, 72 8/9	
Psycho-Neurological Institute, Russia	1917	62 4/9	
University of California	1932	73 4/9, 70 5/9	
University of Moscow, Russia	1919	65 8/9	
University of Tomsk, Russia	1913	63 4/9	
Vanderbilt	1931	74 3/9	

Results of the Board of Medical Examiners' Written Examination, Los Angeles, July 26 to 28, inclusive, 1932.—The Board of Medical Examiners of the State of California reports results of the written examination held in Los Angeles, July 26 to 28, inclusive, 1932.

* Fell below 60 per cent in two subjects.

† For interesting item on some educational trends, under caption, "Doctor Embargo," see this issue of California and Western Medicine, page 264.

The following colleges were represented:

College	PASSED	Year of Graduation	Per Cent
College of Medical Evangelists	1928	85 4/9	
	1931	81 8/9	
	1932	84, 83 1/9	
84 8/9, 84 6/9, 77 2/9, 81 8/9, 86 2/9,	88 5/9, 81 3/9, 84 1/9		
79 6/9, 88 3/9, 81 7/9, 91,	87 5/9, 79,	84 8/9, 87 6/9	
82 5/9, 81 1/9, 85 7/9, 81 8/9, 83 6/9,	87 6/9, 86 6/9, 80 8/9		
80 5/9, 88 4/9, 78 4/9, 78,	85 3/9, 84 5/9, 79 2/9, 82 8/9		
86 7/9, 75, 87,	75 6/9, 88 5/9, 86		
Creighton	1931	75 3/9	
	1932	75 7/9, 77 3/9	
Emory University School of Medicine	1931	84 2/9	
Hahnemann Medical College	1931	76 7/9	
Harvard	1932	84 2/9	
Indiana University	1931	84 4/9	
Loyola	1932	78 2/9, 83 6/9	
McGill University	1931	82 5/9	
Northwestern	1928	82 6/9	
	1932	85 5/9	
Rush	1932	83 1/9, 85 6/9	
	86 5/9, 78 3/9, 87,	83 7/9	
Stanford	1932	83, 81 1/9	
	82 7/9, 83 8/9, 80 3/9		
St. Louis University School of Medicine	1931	77 4/9	
University of California	1932	83 4/9	
University of Colorado	1931	83 7/9	
University of Illinois	1932	80 8/9	
University of Kansas	1931	76 2/9, 79 2/9	
University of Michigan	1931	81 4/9, 79	
		88 8/9	
University of Minnesota	1932	83 2/9	

College	FAILED	Per Cent
College of Medical Evangelists	1932	74, 74
College of Physicians and Surgeons, Arkansas	1910	47
Loyola	1925	73 6/9
University of Bucarest	1921	74 3/9
University of Illinois	1931	68
University of Rome	1902	42 5/9
University of Vienna	1930	74 7/9
Medical College of Virginia	1931	*75 8/9

The Board of Medical Examiners, State of California, reports the results of a written examination held in San Francisco, July 12 to 14, 1932. The following is a list of the successful applicants:

LIST OF SUCCESSFUL APPLICANTS

Harry Nils Akesson, Alameda.
 Lloyd S. Bambauer, Oakland.
 Walter Nicholas Becker, Sacramento.
 Theodore M. Berman, Sacramento.
 Harvey E. Billig, Jr., Long Beach.
 Walter Birnbaum, San Francisco.
 William Edgar Borley, San Francisco.
 Joseph H. Boyes, San Francisco.
 Judd Garwood Bridgman, San Francisco.
 Malcolm Owen Burns, San Francisco.
 Edward Campion, Ross.
 William Sayre Cary, San Francisco.
 Albert G. Clark, San Francisco.
 Maurice Cohen, San Francisco.
 Bernard J. Conroy, San Francisco.
 Leela S. Craig, San Francisco.
 Concetta L. Craviotto, San Francisco.
 Albert H. Currin, San Francisco.
 Windsor C. Cutting, M. D., San Francisco.
 Stanley S. Davis, Oakland.
 Edgar Childs Dawson, Berkeley.
 Glenn R. Dorius, Oakland.
 Thomas A. Drummond, San Francisco.
 Samuel Eldridge, San Francisco.
 Philip C. Elliott, Oakland.
 Grant Ellis, Berkeley.
 Edward G. Ewer, Oakland.
 Frederick D. Fellows, San Francisco.
 Alvin William Folkenberg, Glendale.
 Homer S. Fornoff, Sacramento.
 Florence L. Fouch, Maxwell.
 LeRoy Kyle Gay, San Francisco.
 William Henry Gilliatt, Santa Cruz.
 Sidney M. Gospe, San Francisco.
 John Joseph Haruff, San Francisco.
 Marcia Susan Hays, San Francisco.
 Gerald A. Heldbreder, San Francisco.
 George William Hemminger, San Francisco.
 Ernest William Henderson, San Francisco.
 Lloyd R. Hennig, San Francisco.
 Bernard S. Holm, Berkeley.
 Verne Thomson Inman, San Francisco.
 Walter Kelsuke Iriki, Alameda.
 Lewis G. Jacobs, San Francisco.
 Edna Mildred Jacobson, Los Angeles.
 Lloyd Bertram James, Glendale.
 Kristian Johnsen, Sacramento.

Arthur F. Johnson, Snoqualmie, Washington.
 Walter Albert Johnson, Stockton.
 Frederick Kellogg, San Francisco.
 Hedwig Koenig, San Francisco.
 Harrison J. Kolb, Oakland.
 Lester Baker Lawrence, San Francisco.
 Charles W. Leach, San Francisco.
 Clarence Melvon Leggett, French Camp.
 Edward A. Levin, San Francisco.
 Edward Irving Levy, San Diego.
 Ralph Charles Lewis, San Francisco.
 Frank Walter Lusignan, San Francisco.
 Donald A. Macfarlane, Berkeley.
 Kathleen M. Mahoney, San Francisco.
 Donald C. Marshall, San Francisco.
 John James McKay, San Francisco.
 Thomas W. McMeans, San Francisco.
 Camille Mermod, Oakland.
 Leon Emile Mermod, San Francisco.
 Arthur Henry Meuser, San Francisco.
 Palmer Donald Miller, Dinuba.
 James T. Milton, Merced.
 Charles S. Mitchell, Berkeley.
 Marvin H. Moore, Fresno.
 Rowland R. Moulton, San Mateo.
 Hiram M. Nelson, Jr., San Jose.
 Robert W. Newman, San Francisco.
 Arthur Nies, Orange.
 Charles A. Noble, Jr., San Francisco.
 Milton F. Novotny, San Mateo.
 Albert Lamoin Olsen, Kimberly, Idaho.
 Bernard S. Pearson, Sacramento.
 Bruce Reed Pearson, Turlock.
 Harvey Elmore Pinto, San Francisco.
 Percy Perry Poliak, San Francisco.
 Abraham Porter, Reno, Nevada.
 Luther Glynn Price, San Francisco.
 Beulah Estella Ream, San Francisco.
 George Douglas Read, Albany.
 Walter Earl Reed, Modesto.
 August Reich, Jr., San Jose.
 George Channing Richardson, San Francisco.
 Findlay dePaul Rutherford, San Jose.
 Nathan Avrom Sapiro, San Francisco.
 David Gordon Schmidt, San Francisco.
 Newton H. Shapiro, San Francisco.
 Edwin Jefferson Smith, San Francisco.
 Jacob Oscar Smith, San Francisco.
 Edith Mary Stoker, San Francisco.
 John Robert Sullivan, San Francisco.
 Ralph C. Teall, Sacramento.
 Moreton James Thorpe, San Francisco.
 Philip Edward Thunen, Oakland.
 Royal Grover Tucker, Los Angeles.
 Alfred M. Tunnell, Bellflower.
 Harry A. Tyerman, Bakersfield.
 George Meredith Uhl, Sacramento.
 Albert Vernon Van Zandt, Los Angeles.
 Hildegard Lydia Paula Waasa, San Francisco.
 Horace A. Wald, San Francisco.
 Harold G. Watson, San Jose.
 Samuel J. Weinberg, San Francisco.
 George Kuhn Wever, San Francisco.
 Alfred S. White, San Francisco.
 Homer John Williams, San Francisco.
 Harris R. Wilson, San Francisco.
 John Cornell Wilson, Oakland.
 Clarence Lyon Wood, San Francisco.

The results of the examination held in Los Angeles, July 26 to 28, 1932, as reported by the various examiners and tabulated in the examination record book were checked, identification envelopes opened, and names attached to corresponding examination numbers with the following results:

LIST OF SUCCESSFUL APPLICANTS

Alan Calder Adams, University of Michigan Medical School.
 Benjamin Nelson Anderson, College of Medical Evangelists.
 Albert Neill Anton, St. Louis University School of Medicine, Missouri.
 Daniel Beltz, College of Medical Evangelists.
 Emory Clement Boess, College of Medical Evangelists.
 Harold Buhalts Boyd, College of Medical Evangelists.
 Fred Elwood Bradford, College of Medical Evangelists.
 Frederick J. Bradshaw, Jr., Northwestern University Medical School, Illinois.
 Bertha Breeze Brainard, Rush Medical College, Illinois.
 John Albert E. Bullis, Stanford University School of Medicine.
 Joseph Edmund Cairncross, College of Medical Evangelists.
 Howard Luxmoore Carpenter, Stanford University School of Medicine.
 Mun Hook Chang, College of Medical Evangelists.
 William Brown Chew, University of California Medical School.

Delos Comstock, College of Medical Evangelists.
 John Hazlette Coughlin, Creighton University School of Medicine, Nebraska.
 Willard Isaac Covault, University of Colorado Medical School.
 Robert Arthur Cunningham, University of Kansas School of Medicine, Kansas.
 Albin Walter Dagoberg, College of Medical Evangelists.
 Clarence Everett Dixon, College of Medical Evangelists.
 George Raphael Dunlevy, Northwestern University Medical School.
 Samuel James Ferrara, Indiana University School of Medicine.
 Joseph Paul Fitzgibbon, Rush Medical College, Illinois.
 Cyril Herbrand C. Francis, Stanford University School of Medicine.
 Garrison Albert Frost, Creighton University School of Medicine, Nebraska.
 Herman John Fulco, Loyola University School of Medicine, Illinois.
 Kathryn Lucille Hagen, College of Medical Evangelists.
 Kenneth Ross Hagen, College of Medical Evangelists.
 Franklin Davis Hankins, College of Medical Evangelists.
 Gordon Havstad, College of Medical Evangelists.
 Herbert Clyde Honor, College of Medical Evangelists.
 Cecil Claude Hunnicutt, College of Medical Evangelists.
 Rutherford Orvis Ingham, College of Medical Evangelists.
 Harold Edward James, College of Medical Evangelists.
 Dallas Bayerd Kittle, College of Medical Evangelists.
 Edwin Rudolph Klaus, University of Michigan Medical School.
 Karl Hermann Korthauer, College of Medical Evangelists.
 Elizabeth Larsson, College of Medical Evangelists.
 Eric Lindroth, Emory University School of Medicine, Georgia.
 John Beckham Marr, College of Medical Evangelists.
 Charles Henry McCandless, College of Medical Evangelists.
 Alfred Merrill McCausland, (M. B.), University of Minnesota Medical School.
 Scott Seowcroft McCune, Harvard University Medical School.
 Ruth Landeen Memmler, College of Medical Evangelists.
 Jack Kuehn Moore, Stanford University School of Medicine.
 Fred Howenstine Mowrey, Rush Medical College.
 Harold Clifford Neslund, College of Medical Evangelists.
 Joseph Patrick O'Connor, Creighton University School of Medicine.
 Robert M. Oslund, Rush Medical College.
 John Artie Pearson, Rush Medical College.
 Fenn Eugene Poole, College of Medical Evangelists.
 Harold Wilfred Prince, College of Medical Evangelists.
 Carl Vernon Rasmussen, College of Medical Evangelists.
 John Conrad Rodell, College of Medical Evangelists.
 Robert Bruce Reid, College of Medical Evangelists.
 Merle Franklin Schneekloth, College of Medical Evangelists.
 Samuel Jacob Silverstein, University of Michigan Medical School.
 Charlotte H. Singer, University of Illinois College of Medicine.
 Verden Giddings Slater, Stanford University School of Medicine.
 Carl Richard Smith, Rush Medical College.
 Leo Duane Smith, College of Medical Evangelists.
 Merle Anthony Smith, University of Kansas School of Medicine.
 William Langford Spaulding, College of Medical Evangelists.
 William Harper Spicer, College of Medical Evangelists.
 Clarence Eugene Stafford, College of Medical Evangelists.
 Everett Mead Stone, College of Medical Evangelists.
 Henry Howard Thomson, College of Medical Evangelists.
 William Walla, College of Medical Evangelists.
 Floyd Lawrence Wergeland, College of Medical Evangelists.
 Paul Anthony Werthmann, Loyola University School of Medicine.
 Glenn Albert Westphal, College of Medical Evangelists.
 Ernest George Wiebusch, Hahnemann Medical College.
 John Richard Wilkey, McGill University Faculty of Medicine.
 Robert G. Wirth, College of Medical Evangelists.
 Helen Yarnell, College of Medical Evangelists.